SEQUENCE LISTING

<110> Cao, Liangxian
Trifillis, Panayiota

<120> METHODS FOR IDENTIFYING COMPOUNDS THAT MODULATE UNTRANSLATED REGION-DEPENDENT GENE EXPRESSION AND METHODS OF USING SAME

<130> 10589-012-999

<140> US 10/543,033
<141> 2004-01-21 (371c date)

<150> PCT/US2004/001643
<151> 2004-01-21

<150> 60/441,637
<151> 2003-01-21

<160> 90

<170> PatentIn version 3.2

<210> 1
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: consensus G-quartet element from synthetic sequences

<220>
<221> misc_feature
<222> 3, 7, 8, 11
<223> n = a, t, c, or g

<220>
<221> misc_feature
<222> (7)..(8)
<223> This represents one form of the sequence as described, other forms described may have up to five nucleotides in this variable region

<400> 1
ggntggnngg ntgg 14

<210> 2
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic G-quartet oligonucleotide

<220>
<221> misc_feature
<222> 3, 4, 7, 8, 11, 12
<223> n = a, t, g or c

<220>
<221> misc_feature
<222> 3, 4, 7, 8, 11, 12
<223> This represents one form of the sequence as described, other forms described have longer variable regions, typical is 2 - 10 nucleotides

<400> 2
ggnnggnngg nngg 14

<210> 3
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Antisense minus uORF NcoI primer

<400> 3
ggccccatgg ctccggctgg acccggctgg gacccggctg ggagggcgcg ggagggcgcg 60

g 61

<210> 4
<211> 19
<212> RNA
<213> Oryctolagus cuniculus

<220>
<223> subunit of 15-LOX-DICE

<400> 4
ccccrcccuc uuccccaag 19

<210> 5
<211> 152
<212> DNA
<213> Homo sapiens

<400> 5
gcagaggacc agctaagagg gagagaagca actacagacc ccccctgaaa acaaccctca 60

gacgccacat cccctgacaa gctgccaggc aggttctctt cctctcacat actgacccac 120

ggctccaccc tctctccccc ggaaaggaca cc 152

<210> 6
<211> 792
<212> DNA
<213> Homo sapiens

<400> 6
tgaggaggac gaacatccaa ccttcccaaa cgcctccccc gccccaatcc ctttattacc 60

ccctccttca gacaccctca acctcttctg gctcaaaaag agaattgggg gcttagggtc 120

ggaacccaag cttagaactt taagcaacaa gaccaccact tcgaaacctg ggattcagga 180

atgtgtggcc tgcacagtga attgctggca accactaaga attcaaactg gggcctccag 240

aactcactgg ggcctacagc tttgatccct gacatctgga atctggagac cagggagcct 300

ttggttctgg ccagaatgct gcaggacttg agaagacctc acctagaaat tgacacaagt 360

ggaccttagg ccttcctctc tccagatgtt tccagacttc cttgagacac ggagcccagc 420

cctccccatg gagccagctc cctctattta tgtttgcact tgtgattatt tattatttat 480

ttattattta tttatttaca gatgaatgta tttatttggg agaccggggt atcctggggg 540

acccaatgta ggagctgcct tggctcagac atgttttccg tgaaaacgga gctgaacaat 600

aggctgttcc catgtagccc cctggcctct gtgccttctt ttgattatgt tttttaaaat 660

atttatctga ttaagttgtc taaacaatgc tgatttggtg accaactgtc actcattgct 720

gagcctctgc tccccagggg agttgtgtct gtaatcgccc tactattcag tggcgagaaa 780

taaagtttgc tt 792

<210> 7
<211> 21
<212> RNA
<213> Homo sapiens

<220>
<223> Group I AU-Rich element(ARE) cluster of 3'untranslated region

<400> 7
auuuauuuau uuauuuauuu a 21

<210> 8
<211> 40
<212> DNA
<213> Homo sapiens

<400> 8
kctggaggat gtggctgcag agcctgctgc tcttgggcac 40

<210> 9
<211> 289
<212> DNA
<213> Homo sapiens

<400> 9
gccggggagc tgctctctca tgaaacaaga gctagaaact caggatggtc atcttggagg 60

gaccaagggg tgggccacag ccatggtggg agtggcctgg acctgccctg ggccacactg 120

accctgatac aggcatggca gaagaatggg aatattttat actgacagaa atcagtaata 180

tttatatatt tatattttta aaatatttat ttatttattt atttaagttc atattccata 240

tttattcaag atgttttacc gtaataatta ttattaaaaa tatgcttct 289

<210> 10
<211> 7008
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Expression Vector pCMRI

<400> 10
gacggatcgg gagatctccc gatcccctat ggtgcactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt 480

atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600

tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660

actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720

aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact aagctttcgg 840

cgcgccgagg taccatggga tccgaagacg ccaaaaacat aaagaaaggc ccggcgccat 900

tctatcctct agaggatgga accgctggag agcaactgca taaggctatg aagagatacg 960

ccctggttcc tggaacaatt gcttttacag atgcacatat cgaggtgaac atcacgtacg 1020

cggaatactt cgaaatgtcc gttcggttgg cagaagctat gaaacgatat gggctgaata 1080

caaatcacag aatcgtcgta tgcagtgaaa actctcttca attctttatg ccggtgttgg 1140

gcgcgttatt tatcggagtt gcagttgcgc ccgcgaacga catttataat gaacgtgaat 1200

tgctcaacag tatgaacatt tcgcagccta ccgtagtgtt tgtttccaaa aaggggttgc 1260

aaaaaatttt gaacgtgcaa aaaaaattac caataatcca gaaaattatt atcatggatt 1320

ctaaaacgga ttaccaggga tttcagtcga tgtacacgtt cgtcacatct catctacctc 1380

ccggttttaa tgaatacgat tttgtaccag agtcctttga tcgtgacaaa acaattgcac 1440

tgataatgaa ttcctctgga tctactgggt tacctaaggg tgtggcccttt ccgcatagaa 1500

ctgcctgcgt cagattctcg catgccagag atcctatttt tggcaatcaa atcattccgg 1560

atactgcgat tttaagtgtt gttccattcc atcacggttt tggaatgttt actacactcg 1620

gatatttgat atgtggattt cgagtcgtct taatgtatag atttgaagaa gagctgtttt 1680

tacgatccct tcaggattac aaaattcaaa gtgcgttgct agtaccaacc ctattttcat 1740

tcttcgccaa aagcactctg attgacaaat acgatttatc taatttacac gaaattgctt 1800

ctgggggcgc acctctttcg aaagaagtcg gggaagcggt tgcaaaacgc ttccatcttc 1860

cagggatacg acaaggatat gggctcactg agactacatc agctattctg attacacccg 1920

agggggatga taaaccgggc gcggtcggta aagttgttcc atttttttgaa gcgaaggttg 1980

tggatctgga taccgggaaa acgctgggcg ttaatcagag aggcgaatta tgtgtcagag 2040

gacctatgat tatgtccggt tatgtaaaca atccggaagc gaccaacgcc ttgattgaca 2100

aggatggatg gctacattct ggagacatag cttactggga cgaagacgaa cacttcttca 2160

tagttgaccg cttgaagtct ttaattaaat acaaaggata tcaggtggcc cccgctgaat 2220

tggaatcgat attgttacaa caccccaaca tcttcgacgc gggcgtggca ggtcttcccg 2280

acgatgacgc cggtgaactt cccgccgccg ttgttgtttt ggagcacgga aagacgatga 2340

cggaaaaaga gatcgtggat tacgtcgcca gtcaagtaac aaccgcgaaa aagttgcgcg 2400

gaggagttgt gtttgtggac gaagtaccga aaggtcttac cggaaaactc gacgcaagaa 2460

aaatcagaga gatcctcata aaggccaaga agggcggaaa gtccaaattg cgcggccgct 2520

aactcgagaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc attctattct 2580

gggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata gcaggcatgc 2640

tggggatgcg gtgggctcta tggcttctga ggcggaaaga accagctggg gctctagggg 2700

gtatccccac gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag 2760

cgtgaccgct acacttgcca gcgccctagc gcccgctcct ttcgctttct tcccttcctt 2820

tctcgccacg ttcgccggct ttccccgtca agctctaaat cgggggctcc ctttagggtt 2880

ccgatttagt gctttacggc acctcgaccc caaaaaactt gattagggtg atggttcacg 2940

tagtgggcca tcgccctgat agacggtttt tcgccctttg acgttggagt ccacgttctt 3000

taatagtgga ctcttgttcc aaactggaac aacactcaac cctatctcgg tctattcttt 3060

tgatttataa gggattttgc cgatttcggc ctattggtta aaaaatgagc tgatttaaca 3120

aaaatttaac gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg aaagtcccca 3180

ggctccccag caggcagaag tatgcaaagc atgcatctca attagtcagc aaccaggtgt 3240

ggaaagtccc caggctcccc agcaggcaga agtatgcaaa gcatgcatct caattagtca 3300

gcaaccatag tcccgccccc aactccgccc atcccgcccc taactccgcc cagttccgcc 3360

cattctccgc cccatggctg actaattttt tttatttatg cagaggccga ggccgcctct 3420

gcctctgagc tattccagaa gtagtgagga ggctttttg gaggcctagg cttttgcaaa 3480

aagctcccgg gagcttgtat atccattttc ggatctgatc agcacgtgat gaaaaagcct 3540

gaactcaccg cgacgtctgt cgagaagttt ctgatcgaaa agttcgacag cgtctccgac 3600

ctgatgcagc tctcggaggg cgaagaatct cgtgctttca gcttcgatgt aggagggcgt 3660

ggatatgtcc tgcgggtaaa tagctgcgcc gatggtttct acaaagatcg ttatgtttat 3720

cggcactttg catcggccgc gctcccgatt ccggaagtgc ttgacattgg ggaattcagc 3780

gagagcctga cctattgcat ctcccgccgt gcacagggtg tcacgttgca agacctgcct 3840

gaaaccgaac tgcccgctgt tctgcagccg gtcgcggagg ccatggatgc gatcgctgcg 3900

gccgatctta gccagacgag cgggttcggc ccattcggac cgcaaggaat cggtcaatac 3960

actacatggc gtgatttcat atgcgcgatt gctgatcccc atgtgtatca ctggcaaact 4020

gtgatggacg acaccgtcag tgcgtccgtc gcgcaggctc tcgatgagct gatgctttgg 4080

gccgaggact gccccgaagt ccggcacctc gtgcacgcgg atttcggctc caacaatgtc 4140

ctgacggaca atggccgcat aacagcggtc attgactgga gcgaggcgat gttcggggat 4200

tcccaatacg aggtcgccaa catcttcttc tggaggccgt ggttggcttg tatggagcag 4260

cagacgcgct acttcgagcg gaggcatccg gagcttgcag gatcgccgcg gctccgggcg 4320

tatatgctcc gcattggtct tgaccaactc tatcagagct tggttgacgg caatttcgat 4380

gatgcagctt gggcgcaggg tcgatgcgac gcaatcgtcc gatccggagc cgggactgtc 4440

gggcgtacac aaatcgcccg cagaagcgcg gccgtctgga ccgatggctg tgtagaagta 4500

ctcgccgata gtggaaaccg acgccccagc actcgtccga gggcaaagga atagcacgtg 4560

ctacgagatt tcgattccac cgccgccttc tatgaaaggt tgggcttcgg aatcgttttc 4620

cgggacgccg gctggatgat cctccagcgc ggggatctca tgctggagtt cttcgcccac 4680

cccaacttgt ttattgcagc ttataatggt tacaaataaa gcaatagcat cacaaatttc 4740

acaaataaag catttttttc actgcattct agttgtggtt tgtccaaact catcaatgta 4800

tcttatcatg tctgtatacc gtcgacctct agctagagct tggcgtaatc atggtcatag 4860

ctgtttcctg tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc 4920

ataaagtgta aagcctgggg tgcctaatga gtgagctaac tcacattaat tgcgttgcgc 4980

tcactgcccg ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcggccaa 5040

cgcgcgggga gaggcggttt gcgtattggg cgctcttccg cttcctcgct cactgactcg 5100

ctgcgctcgg tcgttcggct gcggcgagcg gtatcagctc actcaaaggc ggtaatacgg 5160

ttatccacag aatcagggga taacgcagga aagaacatgt gagcaaaagg ccagcaaaag 5220

gccaggaacc gtaaaaaggc cgcgttgctg gcgtttttcc ataggctccg cccccctgac 5280

gagcatcaca aaaatcgacg ctcaagtcag aggtggcgaa acccgacagg actataaaga 5340

taccaggcgt ttcccccctgg aagctccctc gtgcgctctc ctgttccgac cctgccgctt 5400

accggatacc tgtccgcctt tctcccttcg ggaagcgtgg cgctttctca tagctcacgc 5460

tgtaggtatc tcagttcggt gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc 5520

cccgttcagc ccgaccgctg cgccttatcc ggtaactatc gtcttgagtc caacccggta 5580

agacacgact tatcgccact ggcagcagcc actggtaaca ggattagcag agcgaggtat 5640

gtaggcggtg ctacagagtt cttgaagtgg tggcctaact acggctacac tagaagaaca 5700

gtatttggta tctgcgctct gctgaagcca gttaccttcg gaaaaagagt tggtagctct 5760

tgatccggca aacaaaccac cgctggtagc ggtttttttg tttgcaagca gcagattacg 5820

cgcagaaaaa aaggatctca agaagatcct ttgatctttt ctacggggtc tgacgctcag 5880

tggaacgaaa actcacgtta agggattttg gtcatgagat tatcaaaaag gatcttcacc 5940

tagatccttt taaattaaaa atgaagtttt aaatcaatct aaagtatata tgagtaaact 6000

tggtctgaca gttaccaatg cttaatcagt gaggcaccta tctcagcgat ctgtctattt 6060

cgttcatcca tagttgcctg actccccgtc gtgtagataa ctacgatacg ggagggctta 6120

ccatctggcc ccagtgctgc aatgataccg cgagacccac gctcaccggc tccagattta 6180

tcagcaataa accagccagc cggaagggcc gagcgcagaa gtggtcctgc aactttatcc 6240

gcctccatcc agtctattaa ttgttgccgg gaagctagag taagtagttc gccagttaat 6300

agtttgcgca acgttgttgc cattgctaca ggcatcgtgg tgtcacgctc gtcgtttggt 6360

atggcttcat tcagctccgg ttcccaacga tcaaggcgag ttacatgatc ccccatgttg 6420

tgcaaaaaag cggttagctc cttcggtcct ccgatcgttg tcagaagtaa gttggccgca 6480

gtgttatcac tcatggttat ggcagcactg cataattctc ttactgtcat gccatccgta 6540

agatgctttt ctgtgactgg tgagtactca accaagtcat tctgagaata gtgtatgcgg 6600

cgaccgagtt gctcttgccc ggcgtcaata cgggataata ccgcgccaca tagcagaact 6660

ttaaaagtgc tcatcattgg aaaacgttct tcggggcgaa aactctcaag gatcttaccg 6720

ctgttgagat ccagttcgat gtaacccact cgtgcaccca actgatcttc agcatctttt 6780

actttcacca gcgtttctgg gtgagcaaaa acaggaaggc aaaatgccgc aaaaaaggga 6840

ataagggcga cacggaaatg ttgaatactc atactcttcc tttttcaata ttattgaagc 6900

atttatcagg gttattgtct catgagcgga tacatatttg aatgtattta gaaaaataaa 6960

caaatagggg ttccgcgcac atttccccga aaagtgccac ctgacgtc 7008

<210> 11
<211> 47
<212> DNA
<213> Homo sapiens

<400> 11
atcactctct ttaatcacta ctcacattaa cctcaactcc tgccaca 47

<210> 12
<211> 307
<212> DNA
<213> Homo sapiens

<400> 12
taattaagtg cttcccactt aaaacatatc aggccttcta tttatttatt taaatattta 60

aattttatat ttattgttga atgtatggtt gctacctatt gtaactatta ttcttaatct 120

taaaactata aatatggatc ttttatgatt ctttttgtaa gccctagggg ctctaaaatg 180

gtttacctta tttatcccaa aaatatttat tattatgttg aatgttaaat atagtatcta 240

tgtagattgg ttagtaaaac tatttaataa atttgataaa tataaaaaaa aaaaacaaaa 300

aaaaaaa 307

<210> 13
<211> 15
<212> RNA
<213> Homo sapiens

<220>
<223> Group III AU-Rich element(ARE) cluster of 3'untranslated region

<220>
<221> misc_feature
<222> (1)..(15)
<223> n = a, u, g or c

<400> 13
nauuuauuua uuuan 15

<210> 14
<211> 62
<212> DNA
<213> Homo sapiens

<400> 14
ttctgccctc gagcccaccg ggaacgaaag agaagctcta tctcgcctcc aggagcccag 60

ct 62

<210> 15
<211> 427

<212> DNA
<213> Homo sapiens

<400> 15
tagcatgggc acctcagatt gttgttgtta atgggcattc cttcttctgg tcagaaacct 60

gtccactggg cacagaactt atgttgttct ctatggagaa ctaaaagtat gagcgttagg 120

acactatttt aattattttt aatttattaa tatttaaata tgtgaagctg agttaattta 180

tgtaagtcat atttatattt ttaagaagta ccacttgaaa cattttatgt attagttttg 240

aaataataat ggaaagtggc tatgcagttt gaatatcctt tgtttcagag ccagatcatt 300

tcttggaaag tgtaggctta cctcaaataa atggctaact tatacatatt tttaaagaaa 360

tatttatatt gtatttatat aatgtataaa tggtttttat accaataaat ggcattttaa 420

aaaattc 427

<210> 16
<211> 11693
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Expression Vector pCMR2

<400> 16
gttgacattg attattgact agttattaat agtaatcaat tacggggtca ttagttcata 60

gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgcct ggctgaccgc 120

ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag 180

ggactttcca ttgacgtcaa tgggtggagt atttacggta aactgcccac ttggcagtac 240

atcaagtgta tcatatgcca agtccgcccc ctattgacgt caatgacggt aaatggcccg 300

cctggcatta tgcccagtac atgaccttac gggactttcc tacttggcag tacatctacg 360

tattagtcat cgctattacc atggtgatgc ggttttggca gtacaccaat gggcgtggat 420

agcggtttga ctcacgggga tttccaagtc tccaccccat tgacgtcaat gggagtttgt 480

tttggcacca aaatcaacgg gactttccaa aatgtcgtaa taaccccgcc ccgttgacgc 540

aaatgggcgg taggcgtgta cggtgggagg tctatataag cagagctcgt ttagtgaacc 600

gtaagctttc ggcgcgccac ggtaccatgg gatccgaaga cgccaaaaac ataaagaaag 660

gcccggcgcc attctatcct ctagaggatg gaaccgctgg agagcaactg cataaggcta 720

tgaagagata cgccctggtt cctggaacaa ttgcttttac agatgcacat atcgaggtga 780

acatcacgta cgcggaatac ttcgaaatgt ccgttcggtt ggcagaagct atgaaacgat 840

atgggctgaa tacaaatcac agaatcgtcg tatgcagtga aaactctctt caattcttta 900

tgccggtgtt gggcgcgtta tttatcggag ttgcagttgc gcccgcgaac gacatttata 960

atgaacgtga attgctcaac agtatgaaca tttcgcagcc taccgtagtg tttgtttcca 1020

aaaaggggtt gcaaaaaatt ttgaacgtgc aaaaaaaatt accaataatc cagaaaatta 1080

ttatcatgga ttctaaaacg gattaccagg gatttcagtc gatgtacacg ttcgtcacat 1140

ctcatctacc tcccggtttt aatgaatacg attttgtacc agagtccttt gatcgtgaca 1200

aaacaattgc actgataatg aattcctctg gatctactgg gttacctaag ggtgtggccc 1260

ttccgcatag aactgcctgc gtcagattct cgcatgccag agatcctatt tttggcaatc 1320

aaatcattcc ggatactgcg attttaagtg ttgttccatt ccatcacggt tttggaatgt 1380

ttactacact cggatatttg atatgtggat ttcgagtcgt cttaatgtat agatttgaag 1440

aagagctgtt tttacgatcc cttcaggatt acaaaattca aagtgcgttg ctagtaccaa 1500

ccctattttc attcttcgcc aaaagcactc tgattgacaa atacgattta tctaatttac 1560

acgaaattgc ttctgggggc gcacctcttt cgaaagaagt cggggaagcg gttgcaaaac 1620

gcttccatct tccagggata cgacaaggat atgggctcac tgagactaca tcagctattc 1680

tgattacacc cgagggggat gataaaccgg gcgcggtcgg taaagttgtt ccatttttg 1740

aagcgaaggt tgtggatctg gataccggga aaacgctggg cgttaatcag agaggcgaat 1800

tatgtgtcag aggacctatg attatgtccg gttatgtaaa caatccggaa gcgaccaacg 1860

ccttgattga caaggatgga tggctacatt ctggagacat agcttactgg gacgaagacg 1920

aacacttctt catagttgac cgcttgaagt ctttaattaa atacaaagga tatcaggtgg 1980

cccccgctga attggaatcg atattgttac aacaccccaa catcttcgac gcgggcgtgg 2040

caggtcttcc cgacgatgac gccggtgaac ttcccgccgc cgttgttgtt ttggagcacg 2100

gaaagacgat gacggaaaaa gagatcgtgg attacgtcgc cagtcaagta acaaccgcga 2160

aaaagttgcg cggaggagtt gtgtttgtgg acgaagtacc gaaaggtctt accggaaaac 2220

tcgacgcaag aaaaatcaga gagatcctca taaaggccaa gaagggcgga aagtccaaat 2280

tgcgcggccg ctaactcgag aataaacaag ttaacaacaa caattgcatt cattttatgt 2340

ttcaggttca gggggaggtg tgggaggttt tttaaagcaa gtaaaacctc tacaaatgtg 2400

gtatggctga ttatgatccg gctgcctcgc gcgtttcggt gatgacggtg aaaacctctg 2460

acacatgcag ctcccggaga cggtcacagc ttgtctgtaa gcggatgccg ggagcagaca 2520

agcccgtcag gcgtcagcgg gtgttggcgg gtgtcggggc gcagccatga ggtcgactct 2580

agaggatcga tgccccgccc cggacgaact aaacctgact acgacatctc tgcccttct 2640

tcgcggggca gtgcatgtaa tcccttcagt tggttggtac aacttgccaa ctgggccctg 2700

ttccacatgt gacacggggg gggaccaaac acaaaggggt tctctgactg tagttgacat 2760

ccttataaat ggatgtgcac atttgccaac actgagtggc tttcatcctg gagcagactt 2820

tgcagtctgt ggactgcaac acaacattgc ctttatgtgt aactcttggc tgaagctctt 2880

acaccaatgc tgggggacat gtacctccca ggggcccagg aagactacgg gaggctacac 2940

caacgtcaat cagaggggcc tgtgtagcta ccgataagcg gaccctcaag agggcattag 3000

caatagtgtt tataaggccc ccttgttaac cctaaacggg tagcatatgc ttcccgggta 3060

gtagtatata ctatccagac taaccctaat tcaatagcat atgttaccca acgggaagca 3120

tatgctatcg aattagggtt agtaaaaggg tcctaaggaa cagcgatatc tcccacccca 3180

tgagctgtca cggttttatt tacatggggt caggattcca cgagggtagt gaaccatttt 3240

agtcacaagg gcagtggctg aagatcaagg agcgggcagt gaactctcct gaatcttcgc 3300

ctgcttcttc attctccttc gtttagctaa tagaataact gctgagttgt gaacagtaag 3360

gtgtatgtga ggtgctcgaa aacaaggttt caggtgacgc ccccagaata aaatttggac 3420

gggggggttca gtggtggcat tgtgctatga caccaatata accctcacaa acccccttggg 3480

caataaatac tagtgtagga atgaaacatt ctgaatatct ttaacaatag aaatccatgg 3540

ggtggggaca agccgtaaag actggatgtc catctcacac gaatttatgg ctatgggcaa 3600

cacataatcc tagtgcaata tgatactggg gttattaaga tgtgtcccag gcagggacca 3660

agacaggtga accatgttgt tacactctat ttgtaacaag gggaaagaga gtggacgccg 3720

acagcagcgg actccactgg ttgtctctaa caccccccgaa aattaaacgg ggctccacgc 3780

caatggggcc cataaacaaa gacaagtggc cactcttttt tttgaaattg tggagtgggg 3840

gcacgcgtca gcccccacac gccgccctgc ggttttggac tgtaaaataa gggtgtaata 3900

acttggctga ttgtaacccc gctaaccact gcggtcaaac cacttgccca caaaaccact 3960

aatggcaccc cggggaatac ctgcataagt aggtgggcgg gccaagatag gggcgcgatt 4020

gctgcgatct ggaggacaaa ttacacacac ttgcgcctga gcgccaagca cagggttgtt 4080

ggtcctcata ttcacgaggt cgctgagagc acggtgggct aatgttgcca tgggtagcat 4140

atactaccca aatatctgga tagcatatgc tatcctaatc tatatctggg tagcataggc 4200

tatcctaatc tatatctggg tagcatatgc tatcctaatc tatatctggg tagtatatgc 4260

tatcctaatt tatatctggg tagcataggc tatcctaatc tatatctggg tagcatatgc 4320

tatcctaatc tatatctggg tagtatatgc tatcctaatc tgtatccggg tagcatatgc 4380

tatcctaata gagattaggg tagtatatgc tatcctaatt tatatctggg tagcatatac 4440

tacccaaata tctggatagc atatgctatc ctaatctata tctgggtagc atatgctatc 4500

ctaatctata tctgggtagc ataggctatc ctaatctata tctgggtagc atatgctatc 4560

ctaatctata tctgggtagt atatgctatc ctaatttata tctgggtagc ataggctatc 4620

ctaatctata tctgggtagc atatgctatc ctaatctata tctgggtagt atatgctatc 4680

ctaatctgta tccgggtagc atatgctatc ctcatgcata tacagtcagc atatgatacc 4740

cagtagtaga gtgggagtgc tatcctttgc atatgccgcc acctcccaag ggggcgtgaa 4800

ttttcgctgc ttgtcctttt cctgctggtt gctcccattc ttaggtgaat ttaaggaggc 4860

caggctaaag ccgtcgcatg tctgattgct caccaggtaa atgtcgctaa tgttttccaa 4920

cgcgagaagg tgttgagcgc ggagctgagt gacgtgacaa catgggtatg cccaattgcc 4980

ccatgttggg aggacgaaaa tggtgacaag acagatggcc agaaatacac caacagcacg 5040

catgatgtct actggggatt tattctttag tgcgggggaa tacacggctt ttaatacgat 5100

tgagggcgtc tcctaacaag ttacatcact cctgcccttc ctcaccctca tctccatcac 5160

ctccttcatc tccgtcatct ccgtcatcac cctccgcggc agccccttcc accataggtg 5220

gaaaccaggg aggcaaatct actccatcgt caaagctgca cacagtcacc ctgatattgc 5280

aggtaggagc gggctttgtc ataacaaggt ccttaatcgc atccttcaaa acctcagcaa 5340

atatatgagt ttgtaaaaag accatgaaat aacagacaat ggactccctt agcgggccag 5400

gttgtgggcc gggtccaggg gccattccaa aggggagacg actcaatggt gtaagacgac 5460

attgtggaat agcaagggca gttcctcgcc ttaggttgta aagggaggtc ttactacctc 5520

catatacgaa cacaccggcg acccaagttc cttcgtcggt agtcctttct acgtgactcc 5580

tagccaggag agctcttaaa ccttctgcaa tgttctcaaa tttcgggttg gaacctcctt 5640

gaccacgatg cttttccaaa ccaccctcct tttttgcgcc ctgcctccat caccctgacc 5700

ccggggtcca gtgcttgggc cttctcctgg gtcatctgcg gggccctgct ctatcgctcc 5760

cgggggcacg tcaggctcac catctgggcc accttcttgg tggtattcaa aataatcggc 5820

ttcccctaca gggtggaaaa atggccttct acctggaggg ggcctgcgcg gtggagaccc 5880

ggatgatgat gactgactac tgggactcct gggcctcttt tctccacgtc cacgacctct 5940

ccccctggct ctttcacgac ttcccccccc ggctctttca cgtcctctac cccggcggcc 6000

tccactacct cctcgacccc ggcctccact acctcctcga ccccggcctc cactgcctcc 6060

tcgaccccgg cctccacctc ctgctcctgc ccctcctgct cctgcccctc ctcctgctcc 6120

tgcccctcct gcccctcctg ctcctgcccc tcctgcccct cctgctcctg cccctcctgc 6180

ccctcctgct cctgccctc ctgcccctcc tcctgctcct gcccctcctg cccctcctcc 6240

tgctcctgcc cctcctgccc ctcctgctcc tgcccctcct gcccctcctg ctcctgcccc 6300

tcctgcccct cctgctcctg cccctcctgc tcctgcccct cctgctcctg cccctcctgc 6360

tcctgcccct cctgccctc ctgcccctcc tcctgctcct gcccctcctg ctcctgcccc 6420

tcctgcccct cctgcccctc ctgctcctgc ccctcctcct gctcctgccc ctcctgcccc 6480

tcctgcccct cctcctgctc ctgcccctcc tgcccctcct cctgctcctg cccctcctcc 6540

tgctcctgcc cctcctgccc ctcctgcccc tcctcctgct cctgcccctc ctgcccctcc 6600

tcctgctcct gcccctcctc ctgctcctgc ccctcctgcc cctcctgccc ctcctcctgc 6660

tcctgcccct cctcctgctc ctgcccctcc tgcccctcct gcccctcctg cccctcctcc 6720

tgctcctgcc cctcctcctg ctcctgcccc tcctgctcct gcccctcccg ctcctgctcc 6780

tgctcctgtt ccaccgtggg tccctttgca gccaatgcaa cttggacgtt tttggggtct 6840

ccggacacca tctctatgtc ttggccctga tcctgagccg cccggggctc ctggtcttcc 6900

gcctcctcgt cctcgtcctc ttccccgtcc tcgtccatgg ttatcacccc ctcttctttg 6960

aggtccactg ccgccggagc cttctggtcc agatgtgtct cccttctctc ctaggccatt 7020

tccaggtcct gtacctggcc cctcgtcaga catgattcac actaaaagag atcaatagac 7080

atctttatta gacgacgctc agtgaataca gggagtgcag actcctgccc cctccaacag 7140

ccccccccacc ctcatcccct tcatggtcgc tgtcagacag atccaggtct gaaaattccc 7200

catcctccga accatcctcg tcctcatcac caattactcg cagcccggaa aactcccgct 7260

gaacatcctc aagatttgcg tcctgagcct caagccaggc ctcaaattcc tcgtcccccct 7320

ttttgctgga cggtagggat ggggattctc gggacccctc ctcttcctct tcaaggtcac 7380

cagacagaga tgctactggg gcaacggaag aaaagctggg tgcggcctgt gaggatcagc 7440

ttatcgatga taagctgtca aacatgagaa ttcttgaaga cgaaagggcc tcgtgatacg 7500

cctattttta taggttaatg tcatgataat aatggtttct tagacgtcag gtggcacttt 7560

tcggggaaat gtgcgcggaa cccctatttg tttatttttc taaatacatt caaatatgta 7620

tccgctcatg agacaataac cctgataaat gcttcaataa tattgaaaaa ggaagagtat 7680

gagtattcaa catttccgtg tcgcccttat tcccttttttt gcggcatttt gccttcctgt 7740

ttttgctcac ccagaaacgc tggtgaaagt aaaagatgct gaagatcagt tgggtgcacg 7800

agtgggttac atcgaactgg atctcaacag cggtaagatc cttgagagtt ttcgccccga 7860

agaacgtttt ccaatgatga gcacttttaa agttctgcta tgtggcgcgg tattatcccg 7920

tgttgacgcc gggcaagagc aactcggtcg ccgcatacac tattctcaga atgacttggt 7980

tgagtactca ccagtcacag aaaagcatct tacggatggc atgacagtaa gagaattatg 8040

cagtgctgcc ataaccatga gtgataacac tgcggccaac ttacttctga caacgatcgg 8100

aggaccgaag gagctaaccg ctttttttgca caacatgggg gatcatgtaa ctcgccttga 8160

tcgttgggaa ccggagctga atgaagccat accaaacgac gagcgtgaca ccacgatgcc 8220

tgcagcaatg gcaacaacgt tgcgcaaact attaactggc gaactactta ctctagcttc 8280

ccggcaacaa ttaatagact ggatggaggc ggataaagtt gcaggaccac ttctgcgctc 8340

ggcccttccg gctggctggt ttattgctga taaatctgga gccggtgagc gtgggtctcg 8400

cggtatcatt gcagcactgg ggccagatgg taagccctcc cgtatcgtag ttatctacac 8460

gacggggagt caggcaacta tggatgaacg aaatagacag atcgctgaga taggtgcctc 8520

actgattaag cattggtaac tgtcagacca agtttactca tatatacttt agattgattt 8580

aaaacttcat ttttaattta aaaggatcta ggtgaagatc ctttttgata atctcatgac 8640

caaaatccct taacgtgagt tttcgttcca ctgagcgtca gaccccgtag aaaagatcaa 8700

aggatcttct tgagatcctt ttttttctgcg cgtaatctgc tgcttgcaaa caaaaaaacc 8760

accgctacca gcggtggttt gtttgccgga tcaagagcta ccaactcttt ttccgaaggt 8820

aactggcttc agcagagcgc agataccaaa tactgtcctt ctagtgtagc cgtagttagg 8880

ccaccacttc aagaactctg tagcaccgcc tacatacctc gctctgctaa tcctgttacc 8940

agtggctgct gccagtggcg ataagtcgtg tcttaccggg ttggactcaa gacgatagtt 9000

accggataag gcgcagcggt cgggctgaac gggggggttcg tgcacacagc ccagcttgga 9060

gcgaacgacc tacaccgaac tgagatacct acagcgtgag ctatgagaaa gcgccacgct 9120

tcccgaaggg agaaaggcgg acaggtatcc ggtaagcggc agggtcggaa caggagagcg 9180

cacgagggag cttccagggg gaaacgcctg gtatctttat agtcctgtcg ggtttcgcca 9240

cctctgactt gagcgtcgat ttttgtgatg ctcgtcaggg gggcggagcc tatggaaaaa 9300

cgccagcaac gcggcctttt tacggttcct ggccttttgc tggccttgaa gctgtccctg 9360

atggtcgtca tctacctgcc tggacagcat ggcctgcaac gcgggcatcc cgatgccgcc 9420

ggaagcgaga agaatcataa tggggaaggc catccagcct cgcgtcgcga acgccagcaa 9480

gacgtagccc agcgcgtcgg ccccgagatg cgccgcgtgc ggctgctgga gatggcggac 9540

gcgatggata tgttctgcca agggttggtt tgcgcattca cagttctccg caagaattga 9600

ttggctccaa ttcttggagt ggtgaatccg ttagcgaggt gccgccctgc ttcatccccg 9660

tggcccgttg ctcgcgtttg ctggcggtgt ccccggaaga aatatatttg catgtcttta 9720

gttctatgat gacacaaacc ccgcccagcg tcttgtcatt ggcgaattcg aacacgcaga 9780

tgcagtcggg gcggcgcggt ccgaggtcca cttcgcatat taaggtgacg cgtgtggcct 9840

cgaacaccga gcgaccctgc agcgacccgc ttaacagcgt caacagcgtg ccgcagatcc 9900

cgggggggcaa tgagatatga aaaagcctga actcaccgcg acgtctgtcg agaagtttct 9960

gatcgaaaag ttcgacagcg tctccgacct gatgcagctc tcggagggcg aagaatctcg 10020

tgctttcagc ttcgatgtag gagggcgtgg atatgtcctg cgggtaaata gctgcgccga 10080

tggtttctac aaagatcgtt atgtttatcg gcactttgca tcggccgcgc tcccgattcc 10140

ggaagtgctt gacattgggg aattcagcga gagcctgacc tattgcatct cccgccgtgc 10200

acagggtgtc acgttgcaag acctgcctga aaccgaactg cccgctgttc tgcagccggt 10260

cgcggaggcc atggatgcga tcgctgcggc cgatcttagc cagacgagcg ggttcggccc 10320

attcggaccg caaggaatcg gtcaatacac tacatggcgt gatttcatat gcgcgattgc 10380

tgatccccat gtgtatcact ggcaaactgt gatggacgac accgtcagtg cgtccgtcgc 10440

gcaggctctc gatgagctga tgctttgggc cgaggactgc cccgaagtcc ggcacctcgt 10500

gcacgcggat ttcggctcca acaatgtcct gacggacaat ggccgcataa cagcggtcat 10560

tgactggagc gaggcgatgt tcggggattc ccaatacgag gtcgccaaca tcttcttctg 10620

gaggccgtgg ttggcttgta tggagcagca gacgcgctac ttcgagcgga ggcatccgga 10680

gcttgcagga tcgccgcggc tccgggcgta tatgctccgc attggtcttg accaactcta 10740

tcagagcttg gttgacggca atttcgatga tgcagcttgg gcgcagggtc gatgcgacgc 10800

aatcgtccga tccggagccg ggactgtcgg gcgtacacaa atcgcccgca gaagcgcggc 10860

cgtctggacc gatggctgtg tagaagtact cgccgatagt ggaaaccgac gccccagcac 10920

tcgtccggat cgggagatgg gggaggctaa ctgaaacacg gaaggagaca ataccggaag 10980

gaacccgcgc tatgacggca ataaaaagac agaataaaac gcacgggtgt tgggtcgttt 11040

gttcataaac gcggggttcg gtcccagggc tggcactctg tcgatacccc accgagaccc 11100

cattggggcc aatacgcccg cgtttcttcc ttttccccac cccacccccc aagttcgggt 11160

gaaggcccag ggctcgcagc caacgtcggg gcggcaggcc ctgccatagc cactggcccc 11220

gtgggttagg gacggggtcc cccatgggga atggtttatg gttcgtgggg gttattattt 11280

gggcgttgcg tggggtcagg tccacgactg gactgagcag acagacccat ggtttttgga 11340

tggcctgggc atggaccgca tgtactggcg cgacacgaac accgggcgtc tgtggctgcc 11400

aaacaccccc gacccccaaa aaccaccgcg cggatttctg gcgtgccaag ctagtcgacc 11460

aattctcatg tttgacagct tatcatcgca gatccgggca acgttgttgc cattgctgca 11520

ggcgcagaac tggtaggtat ggaagatcta tacattgaat caatattggc aattagccat 11580

attagtcatt ggttatatag cataaatcaa tattggctat tggccattgc atacgttgta 11640

tctatatcat aatatgtaca tttatattgg ctcatgtcca atatgaccgc cat 11693

<210> 17
<211> 701
<212> DNA
<213> Homo sapiens

<400> 17

aagagctcca gagagaagtc gaggaagaga gagacggggt cagagagagc gcgcgggcgt 60

gcgagcagcg aaagcgacag gggcaaagtg agtgacctgc ttttgggggt gaccgccgga 120

gcgcggcgtg agccctcccc cttgggatcc cgcagctgac cagtcgcgct gacggacaga 180

cagacagaca ccgcccccag ccccagttac cacctcctcc ccggccggcg gcggacagtg 240

gacgcggcgg cgagccgcgg gcaggggccg gagcccgccc ccggaggcgg ggtggagggg 300

gtcggagctc gcggcgtcgc actgaaactt ttcgtccaac ttctgggctg ttctcgcttc 360

ggaggagccg tggtccgcgc gggggaagcc gagccgagcg gagccgcgag aagtgctagc 420

tcgggccggg aggagccgca gccggaggag ggggaggagg aagaagagaa ggaagaggag 480

agggggccgc agtggcgact cggcgctcgg aagccgggct catggacggg tgaggcggcg 540

gtgtgcgcag acagtgctcc agcgcgcgcg ctccccagcc ctggcccggc ctcgggccgg 600

gaggaagagt agctcgccga ggcgccgagg agagcgggcc gccccacagc ccgagccgga 660

gagggacgcg agccgcgcgc cccggtcggg cctccgaaac c 701

<210> 18
<211> 1892
<212> DNA
<213> Homo sapiens

<400> 18
tgagccgggc aggaggaagg agcctccctc agggtttcgg gaaccagatc tctctccagg 60

aaagactgat acagaacgat cgatacagaa accacgctgc cgccaccaca ccatcaccat 120

cgacagaaca gtccttaatc cagaaacctg aaatgaagga agaggagact ctgcgcagag 180

cactttgggt ccggagggcg agactccggc ggaagcattc ccgggcgggt gacccagcac 240

ggtccctctt ggaattggat tcgccatttt atttttcttg ctgctaaatc accgagcccg 300

gaagattaga gagttttatt tctgggattc ctgtagacac acccacccac atacatacat 360

ttatatatat atatattata tatatataaa aataaatatc tctattttat atatataaaa 420

tatatatatt ctttttttaa attaacagtg ctaatgttat tggtgtcttc actggatgta 480

tttgactgct gtggacttga gttgggaggg gaatgttccc actcagatcc tgacagggaa 540

gaggaggaga tgagagactc tggcatgatc tttttttttgt cccacttggt ggggccaggg 600

tcctctcccc tgcccaagaa tgtgcaaggc cagggcatgg gggcaaatat gacccagttt 660

tgggaacacc gacaaaccca gccctggcgc tgagcctctc taccccaggt cagacggaca 720

gaaagacaaa tcacaggttc cgggatgagg acaccggctc tgaccaggag tttggggagc 780

ttcaggacat tgctgtgctt tggggattcc ctccacatgc tgcacgcgca tctcgccccc 840

aggggcactg cctggaagat tcaggagcct gggcggcctt cgcttactct cacctgcttc 900

tgagttgccc aggaggccac tggcagatgt cccggcgaag agaagagaca cattgttgga 960

agaagcagcc catgacagcg ccccttcctg ggactcgccc tcatcctctt cctgctcccc 1020

ttcctggggt gcagcctaaa aggacctatg tcctcacacc attgaaacca ctagttctgt 1080

ccccccagga aacctggttg tgtgtgtgtg agtggttgac cttcctccat cccctggtcc 1140

ttcccttccc ttcccgaggc acagagagac agggcaggat ccacgtgccc attgtggagg 1200

cagagaaaag agaaagtgtt ttatatacgg tacttattta atatcccttt ttaattagaa 1260

attagaacag ttaatttaat taaagagtag ggtttttttt cagtattctt ggttaatatt 1320

taatttcaac tatttatgag atgtatcttt tgctctctct tgctctctta tttgtaccgg 1380

tttttgtata taaaattcat gtttccaatc tctctctccc tgatcggtga cagtcactag 1440

cttatcttga acagatattt aattttgcta acactcagct ctgccctccc cgatcccctg 1500

gctccccagc acacattcct ttgaaagagg gtttcaatat acatctacat actatatata 1560

tattgggcaa cttgtatttg tgtgtatata tatatatata tgtttatgta tatatgtgat 1620

cctgaaaaaa taaacatcgc tattctgttt tttatatgtt caaaccaaac aagaaaaaat 1680

agagaattct acatactaaa tctctctcct tttttaattt taatatttgt tatcatttat 1740

ttattggtgc tactgtttat ccgtaataat tgtggggaaa agatattaac atcacgtctt 1800

tgtctctagt gcagtttttc gagatattcc gtagtacata tttatttttа aacaacgaca 1860

aagaaataca gatatatctt aaaaaaaaaa aa 1892

<210> 19
<211> 249
<212> RNA
<213> Homo sapiens

<400> 19
ccgggcucau ggacggguga ggcggcggug ugcgcagaca gugcuccagc gcgcgcgcuc 60

cccagcccug gcccggccuc gggccgggag gaagaguagc ucgccgaggc gccgaggaga 120

gcgggccgcc ccacagcccg agccggagag ggacgcgagc cgcgcgcccc ggucgggccu 180

ccgaaaccau gaacuuucug cugucuuggg ugcauuggag ccuugccuug cugcucuacc 240

uccaccaug 249

<210> 20
<211> 4825
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Expression vector pMCP1

<400> 20

gacggatcgg gagatctccc gatcccctat ggtgcactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt 480

atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600

tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660

actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720

aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact aagctttcgg 840

cgcgccgagg taccatggga tccgaagacg ccaaaaacat aaagaaaggc ccggcgccat 900

tctatcctct agaggatgga accgctggag agcaactgca taaggctatg aagagatacg 960

ccctggttcc tggaacaatt gcttttacag atgcacatat cgaggtgaac atcacgtacg 1020

cggaatactt cgaaatgtcc gttcggttgg cagaagctat gaaacgatat gggctgaata 1080

caaatcacag aatcgtcgta tgcagtgaaa actctcttca attctttatg ccggtgttgg 1140

gcgcgttatt tatcggagtt gcagttgcgc ccgcgaacga catttataat gaacgtgaat 1200

tgctcaacag tatgaacatt tcgcagccta ccgtagtgtt tgtttccaaa aaggggttgc 1260

aaaaaatttt gaacgtgcaa aaaaaattac caataatcca gaaaattatt atcatggatt 1320

ctaaaacgga ttaccaggga tttcagtcga tgtacacgtt cgtcacatct catctacctc 1380

ccggttttaa tgaatacgat tttgtaccag agtcctttga tcgtgacaaa acaattgcac 1440

tgataatgaa ttcctctgga tctactgggt tacctaaggg tgtggccctt ccgcatagaa 1500

ctgcctgcgt cagattctcg catgccagag atcctatttt tggcaatcaa atcattccgg 1560

atactgcgat tttaagtgtt gttccattcc atcacggttt tggaatgttt actacactcg 1620

gatatttgat atgtggattt cgagtcgtct taatgtatag atttgaagaa gagctgtttt 1680

tacgatccct tcaggattac aaaattcaaa gtgcgttgct agtaccaacc ctattttcat 1740

tcttcgccaa aagcactctg attgacaaat acgatttatc taatttacac gaaattgctt 1800

ctgggggcgc acctctttcg aaagaagtcg gggaagcggt tgcaaaacgc ttccatcttc 1860

cagggatacg acaaggatat gggctcactg agactacatc agctattctg attacacccg 1920

aggggatga taaaccgggc gcggtcggta aagttgttcc atttttgaa gcgaaggttg 1980

tggatctgga taccgggaaa acgctgggcg ttaatcagag aggcgaatta tgtgtcagag 2040

gacctatgat tatgtccggt tatgtaaaca atccggaagc gaccaacgcc ttgattgaca 2100

aggatggatg gctacattct ggagacatag cttactggga cgaagacgaa cacttcttca 2160

tagttgaccg cttgaagtct ttaattaaat acaaaggata tcaggtggcc cccgctgaat 2220

tggaatcgat attgttacaa caccccaaca tcttcgacgc gggcgtggca ggtcttcccg 2280

acgatgacgc cggtgaactt cccgccgccg ttgttgtttt ggagcacgga aagacgatga 2340

cggaaaaaga gatcgtggat tacgtcgcca gtcaagtaac aaccgcgaaa aagttgcgcg 2400

gaggagttgt gtttgtggac gaagtaccga aaggtcttac cggaaaactc gacgcaagaa 2460

aaatcagaga gatcctcata aaggccaaga agggcggaaa gtccaaattg cgcggccgct 2520

aactcgagaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc attctattct 2580

ggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata gcaggcatgc 2640

tggggatgcg gtgggctcta tggcttctga ggcggaaaga accagctggg gctctagggg 2700

gtatccccac gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag 2760

cgtgaccgct acacttgcca gcgccctagc gcccgctcct ttcgctttct tcccttcctt 2820

tctcgccacg ttcgccggct ttccccgtca agctctaaat cgggggtccc tttagggttc 2880

cgatttagtg ctttacggca cctcgacccc aaaaaacttg attagggtga tggttcacgt 2940

acctagaagt tcctattccg aagttcctat tctctagaaa gtataggaac ttccttggcc 3000

aaaaagcctg aactcaccgc gacgtctgtc gagaagtttc tgatcgaaaa gttcgacagc 3060

gtctccgacc tgatgcagct ctcggagggc gaagaatctc gtgctttcag cttcgatgta 3120

ggagggcgtg gatatgtcct gcgggtaaat agctgcgccg atggtttcta caaagatcgt 3180

tatgtttatc ggcactttgc atcggccgcg ctcccgattc cggaagtgct tgacattggg 3240

gaattcagcg agagcctgac ctattgcatc tcccgccgtg cacagggtgt cacgttgcaa 3300

gacctgcctg aaaccgaact gcccgctgtt ctgcagccgg tcgcggaggc catggatgcg 3360

atcgctgcgg ccgatcttag ccagacgagc gggttcggcc cattcggacc gcaaggaatc 3420

ggtcaataca ctacatggcg tgatttcata tgcgcgattg ctgatcccca tgtgtatcac 3480

tggcaaactg tgatggacga caccgtcagt gcgtccgtcg cgcaggctct cgatgagctg 3540

atgctttggg ccgaggactg ccccgaagtc cggcacctcg tgcagcaaac aaaccaccgc 3600

tggtagcggt ttttttgttt gcaagcagca gattacgcgc agaaaaaaag gatctcaaga 3660

agatcctttg atcttttcta cggggtctga cgctcagtgg aacgaaaact cacgttaagg 3720

gattttggtc atgagattat caaaaaggat cttcacctag atccttttaa attaaaaatg 3780

aagttttaaa tcaatctaaa gtatatatga gtaaacttgg tctgacagtt accaatgctt 3840

aatcagtgag gcacctatct cagcgatctg tctatttcgt tcatccatag ttgcctgact 3900

ccccgtcgtg tagataacta cgatacggga gggcttacca tctggcccca gtgctgcaat 3960

gataccgcga gacccacgct caccggctcc agatttatca gcaataaacc agccagccgg 4020

aagggccgag cgcagaagtg gtcctgcaac tttatccgcc tccatccagt ctattaattg 4080

ttgccgggaa gctagagtaa gtagttcgcc agttaatagt ttgcgcaacg ttgttgccat 4140

tgctacaggc atcgtggtgt cacgctcgtc gtttggtatg gcttcattca gctccggttc 4200

ccaacgatca aggcgagtta catgatcccc catgttgtgc aaaaaagcgg ttagctcctt 4260

cggtcctccg atcgttgtca gaagtaagtt ggccgcagtg ttatcactca tggttatggc 4320

agcactgcat aattctctta ctgtcatgcc atccgtaaga tgcttttctg tgactggtga 4380

gtactcaacc aagtcattct gagaatagtg tatgcggcga ccgagttgct cttgcccggc 4440

gtcaatacgg gataataccg cgccacatag cagaacttta aaagtgctca tcattggaaa 4500

acgttcttcg gggcgaaaac tctcaaggat cttaccgctg ttgagatcca gttcgatgta 4560

acccactcgt gcacccaact gatcttcagc atcttttact ttcaccagcg tttctgggtg 4620

agcaaaaaca ggaaggcaaa atgccgcaaa aaagggaata agggcgacac ggaaatgttg 4680

aatactcata ctcttccttt ttcaatatta ttgaagcatt tatcagggtt attgtctcat 4740

gagcggatac atatttgaat gtatttagaa aaataaacaa atagggggttc cgcgcacatt 4800

tccccgaaaa gtgccacctg acgtc 4825

<210> 21
<211> 49
<212> DNA
<213> Homo sapiens

<400> 21
ccgccagatt tgaatcgcgg gacccgttgg cagaggtggc ggcggcggc 49

<210> 22
<211> 1141
<212> DNA
<213> Homo sapiens

<400> 22
ggcctctggc cggagctgcc tggtcccaga gtggctgcac cacttccagg gtttattccc 60

tggtgccacc agccttcctg tgggcccctt agcaatgtct taggaaagga gatcaacatt 120

ttcaaattag atgtttcaac tgtgctcctg ttttgtcttg aaagtggcac cagaggtgct 180

tctgcctgtg cagcgggtgc tgctggtaac agtggctgct tctctctctc tctctctttt 240

ttgggggctc atttttgctg ttttgattcc cgggcttacc aggtgagaag tgagggagga 300

agaaggcagt gtccctttg ctagagctga cagctttgtt cgcgtgggca gagccttcca 360

cagtgaatgt gtctggacct catgttgttg aggctgtcac agtcctgagt gtggacttgg 420

caggtgcctg ttgaatctga gctgcaggtt ccttatctgt cacacctgtg cctcctcaga 480

ggacagtttt tttgttgttg tgttttttg ttttttttt ttggtagatg catgacttgt 540

gtgtgatgag agaatggaga cagagtccct ggctcctcta ctgtttaaca acatggcttt 600

cttattttgt ttgaattgtt aattcacaga atagcacaaa ctacaattaa aactaagcac 660

aaagccattc taagtcattg gggaaacggg gtgaacttca ggtggatgag gagacagaat 720

agagtgatag gaagcgtctg gcagatactc cttttgccac tgctgtgtga ttagacaggc 780

ccagtgagcc gcggggcaca tgctggccgc tcctccctca gaaaaaggca gtggcctaaa 840

tccttttaa atgacttggc tcgatgctgt gggggactgg ctgggctgct gcaggccgtg 900

tgtctgtcag cccaaccttc acatctgtca cgttctccac acgggggaga gacgcagtcc 960

gcccaggtcc ccgctttctt tggaggcagc agctcccgca gggctgaagt ctggcgtaag 1020

atgatggatt tgattcgccc tcctccctgt catagagctg cagggtggat tgttacagct 1080

tcgctggaaa cctctggagg tcatctcggc tgttcctgag aaataaaaag cctgtcattt 1140

c 1141

<210> 23
<211> 247
<212> DNA
<213> Homo sapiens

<400> 23
ccccggcgca gcgcggccgc agcagcctcc gccccccgca cggtgtgagc gcccgacgcg 60

gccgaggcgg ccggagtccc gagctagccc cggcggccgc cgccgcccag accggacgac 120

aggccacctc gtcggcgtcc gcccgagtcc ccgcctcgcc gccaacgcca caaccaccgc 180

gcacggcccc ctgactccgt ccagtattga tcgggagagc cggagcgagc tcttcgggga 240

gcagcag 247

<210> 24
<211> 1716
<212> DNA
<213> Homo sapiens

<400> 24
tgaccacgga ggatagtatg agccctaaaa atccagactc tttcgatacc caggaccaag 60

ccacagcagg tcctccatcc caacagccat gcccgcatta gctcttagac ccacagactg 120

gttttgcaac gtttacaccg actagccagg aagtacttcc acctcgggca cattttggga 180

agttgcattc ctttgtcttc aaactgtgaa gcatttacag aaacgcatcc agcaagaata 240

ttgtcccttt gagcagaaat ttatctttca aagaggtata tttgaaaaaa aaaaaaaaag 300

tatatgtgag gatttttatt gattggggat cttggagttt ttcattgtcg ctattgattt 360

ttacttcaat gggctcttcc aacaaggaag aagcttgctg gtagcacttg ctaccctgag 420

ttcatccagg cccaactgtg agcaaggagc acaagccaca agtcttccag aggatgcttg 480

attccagtgg ttctgcttca aggcttccac tgcaaaacac taaagatcca agaaggcctt 540

catggcccca gcaggccgga tcggtactgt atcaagtcat ggcaggtaca gtaggataag 600

ccactctgtc ccttcctggg caaagaagaa acggagggga tgaattcttc cttagactta 660

cttttgtaaa aatgtcccca cggtacttac tccccactga tggaccagtg gtttccagtc 720

atgagcgtta gactgacttg tttgtcttcc attccattgt tttgaaactc agtatgccgc 780

ccctgtcttg ctgtcatgaa atcagcaaga gaggatgaca catcaaataa taactcggat 840

tccagcccac attggattca tcagcatttg gaccaatagc ccacagctga gaatgtggaa 900

tacctaagga taacaccgct tttgttctcg caaaaacgta tctcctaatt tgaggctcag 960

atgaaatgca tcaggtcctt tggggcatag atcagaagac tacaaaaatg aagctgctct 1020

gaaatctcct ttagccatca ccccaacccc ccaaaattag tttgtgttac ttatggaaga 1080

tagttttctc cttttacttc acttcaaaag ctttttactc aaagagtata tgttccctcc 1140

aggtcagctg cccccaaacc ccctccttac gctttgtcac acaaaaagtg tctctgcctt 1200

gagtcatcta ttcaagcact tacagctctg gccacaacag ggcattttac aggtgcgaat 1260

gacagtagca ttatgagtag tgtgaattca ggtagtaaat atgaaactag ggtttgaaat 1320

tgataatgct ttcacaacat ttgcagatgt tttagaagga aaaaagttcc ttcctaaaat 1380

aatttctcta caattggaag attggaagat tcagctagtt aggagcccat tttttcctaa 1440

tctgtgtgtg ccctgtaacc tgactggtta acagcagtcc tttgtaaaca gtgttttaaa 1500

ctctcctagt caatatccac cccatccaat ttatcaagga agaaatggtt cagaaaatat 1560

tttcagccta cagttatgtt cagtcacaca cacatacaaa atgttccttt tgcttttaaa 1620

gtaatttttg actcccagat cagtcagagc ccctacagca ttgttaagaa agtatttgat 1680

ttttgtctca atgaaaataa aactatattc atttcc 1716

<210> 25
<211> 160
<212> DNA
<213> Homo sapiens

<400> 25
tataaaagct gggccggcgc gggccgggcc attcgcgacc cggaggtgcg cgggcgcggg 60

cgagcagggt ctccgggtgg gcggcgcgac gccccgcgca ggctggaggc cgccgaggct 120

cgccatgccg ggagaactct aactccccca tggagtcggc 160

<210> 26
<211> 1306
<212> DNA
<213> Homo sapiens

<400> 26
tgaggcgcgc ggctgtggga ccgccctggg ccagcctccg gcggggaccc agggagtggt 60

ttggggtcgc cggatctcga ggcttgccca gaccgtgcga gccaggacta ggagattccg 120

gtgcctcctg aaagcctggc ctgctccgcg tgtcccctcc cttcctctgc gccggacttg 180

gtgcgtctaa gatgaggggg ccaggcggtg gcttctccct gcgaggaggg gagaattctt 240

ggggctgagc tgggagcccg gcaactctag tatttaggat aacttgtgcc ttggaaatgc 300

aaactcaccg ctccaatgcc tactgagtag ggggagcaaa tcgtgccttg tcattttatt 360

tggaggtttc ctgcctcctt cccgaggcta cagcagaccc ccatgagaga aggaggggag 420

caggcccgtg gaggaggggg gctcagggag ctgagatccc gacaagcccg ccagccccag 480

ccgctcctcc acgcctgtcc ttagaaaggg gtggaaacat agggacttgg ggcttggaac 540

ctaaggttgt tccctagttc tacatgaagg tggaggtctc tagttccacg cctctcccac 600

ctccctccgc acacacccca cccagcctgc tataggctgg ctttcccttg gggctggaac 660

tcactgcgat ggggtcacca ggtgaccagt ggagccccca ccccgagtca gaccagaaag 720

ctaggtcgtg ggtcagctct gaggatgtat acccctggtg ggagagggag acctagagat 780

ctggctgtgg ggcgggcatg gggggtgaag ggccactggg accctcagcc ttgtttgtac 840

tgtatgcctt cagcattgcc taggaacacg aagcacgatc agtccatcca gagggaccgg 900

agttatgaca agcttcccaa atattttgct ttatcagccg atatcaacac ttgtatctgg 960

cctctgtgcc cagcagtgcc ttgtgcaatg tgaatgtacc gtctctgcta aaccaccatt 1020

ttatttggtt ttgttttgtt tggttttctc ggatacttgc caaaatgaga ctctccgtcg 1080

gcagctgggg gaagggtctg agactctctt tccttttggt tttgggatta cttttgatcc 1140

tgggggacca atgaggtgag gggggttctc ctttgccctc agctttccca gccctccggc 1200

ctgggctgcc cacaaggctt ctcccccaga ggccctggct cctggtcggg aagggaggtg 1260

cctcccgcca acgcatcact ggggctggga gcagggaagg gaattc 1306

<210> 27

<211> 216
<212> DNA
<213> Homo sapiens

<400> 27
agcgagagcg cccccgagca gcgcccgcgc cctccgcgcc ttctccgccg ggacctcgag 60

cgaaagacgc ccgcccgccg cccagccctc gcctccctgc ccaccgggca caccgcgccg 120

ccaccccgac cccgctgcgc acggcctgtc cgctgcacac cagcttgttg gcgtcttcgt 180

cgccgcgctc gccccgggct actcctgcgc gccaca 216

<210> 28
<211> 687
<212> DNA
<213> Homo sapiens

<400> 28
taaatgctac ctgggtttcc agggcacacc tagacaaaca rgggagaaga gtgtcagaat 60

cagaatcatg gagaaaatgg gcgggggtgg tgtgggtgat gggactcatt gtagaaagga 120

agccttgctc attcttgagg agcattaagg tatttcgaaa ctgccaaggg tgctggtgcg 180

gatggacact aatgcagcca cgattggaga atactttgct tcatagtatt ggagcacatg 240

ttactgcttc attttggagc ttgtggagtt gatgactttc tgttttctgt ttgtaaatta 300

tttgctaagc atattttctc taggcttttt tccttttggg gttctacagt cgtaaaagag 360

ataataagat tagttggaca gtttaaagct tttattcgtc ctttgacaaa agtaaatggg 420

agggcattcc atcccttcct gaagggggac actccatgag tgtctgtgag aggcagctat 480

ctgcactcta aactgcaaac agaaatcagg tgttttaaga ctgaatgttt tatttatcaa 540

aatgtagctt ttggggaggg aggggaaatg taatactgga ataatttgta aatgatttta 600

attttatatt cagtgaaaag attttattta tggaattaac catttaataa agaaatattt 660

acctaaaaaa aaaaaaaaaa aaaaaaa 687

<210> 29
<211> 310
<212> DNA
<213> Homo sapiens

<400> 29
cggccccaga aaacccgagc gagtaggggg cggcgcgcag gagggaggag aactgggggc 60

gcgggaggct ggtgggtgtc gggggtggag atgtagaaga tgtgacgccg cggcccggcg 120

ggtgccagat tagcggacgg ctgcccgcgg ttgcaacggg atcccgggcg ctgcagcttg 180

ggaggcggct ctccccaggc ggcgtccgcg gagacaccca tccgtgaacc ccaggtcccg 240

ggccgccggc tcgccgcgca ccaggggccg gcggacagaa gagcggccga gcggctcgag 300

gctgggggac 310

<210> 30
<211> 5882
<212> DNA
<213> Homo sapiens

<400> 30
ctgctaagag ctgattttaa tggccacatc taatctcatt tcacatgaaa gaagaagtat 60

attttagaaa tttgttaatg agagtaaaag aaaataaatg tgtatagctc agtttggata 120

attggtcaaa caatttttta tccagtagta aaatatgtaa ccattgtccc agtaaagaaa 180

aataacaaaa gttgtaaaat gtatattctc ccttttatat tgcatctgct gttacccagt 240

gaagcttacc tagagcaatg atcttttca cgcatttgct ttattcgaaa agaggctttt 300

aaaatgtgca tgtttagaaa caaaatttct tcatggaaat catatacatt agaaaatcac 360

agtcagatgt ttaatcaatc caaaatgtcc actatttctt atgtcattcg ttagtctaca 420

tgtttctaaa catataaatg tgaatttaat caattccttt catagtttta taattctctg 480

gcagttcctt atgatagagt ttataaaaca gtcctgtgta aactgctgga agttcttcca 540

cagtcaggtc aattttgtca aacccttctc tgtacccata cagcagcagc ctagcaactc 600

tgctggtgat gggagttgta ttttcagtct tcgccaggtc attgagatcc atccactcac 660

atcttaagca ttcttcctgg caaaaattta tggtgaatga atatggcttt aggcggcaga 720

tgatatacat atctgacttc ccaaaagctc caggatttgt gtgctgttgc cgaatactca 780

ggacggacct gaattctgat tttataccag tctcttcaaa aacttctcga accgctgtgt 840

ctcctacgta aaaaaagaga tgtacaaatc aataataatt acacttttag aaactgtatc 900

atcaaagatt ttcagttaaa gtagcattat gtaaaggctc aaaacattac cctaacaaag 960

taaagttttc aatacaaatt ctttgccttg tggatatcaa gaaatcccaa aatattttct 1020

taccactgta aattcaagaa gcttttgaaa tgctgaatat ttctttggct gctacttgga 1080

ggcttatcta cctgtacatt tttggggtca gctcttttta acttcttgct gctcttttc 1140

ccaaaaggta aaaatataga ttgaaaagtt aaaacatttt gcatggctgc agttcctttg 1200

tttcttgaga taagattcca aagaacttag attcatttct tcaacaccga aatgctggag 1260

gtgtttgatc agttttcaag aaacttggaa tataaataat tttataattc aacaaaggtt 1320

ttcacatttt ataaggttga tttttcaatt aaatgcaaat ttgtgtggca ggatttttat 1380

tgccattaac atatttttgt ggctgctttt tctacacatc cagatggtcc ctctaactgg 1440

gctttctcta attttgtgat gttctgtcat tgtctcccaa agtatttagg agaagccctt 1500

taaaaagctg ccttcctcta ccactttgct ggaaagcttc acaattgtca cagacaaaga 1560

ttttttgttcc aatactcgtt ttgcctctat ttttcttgtt tgtcaaatag taaatgatat 1620

ttgcccttgc agtaattcta ctggtgaaaa acatgcaaag aagaggaagt cacagaaaca 1680

tgtctcaatt cccatgtgct gtgactgtag actgtcttac catagactgt cttacccatc 1740

ccctggatat gctcttgttt tttccctcta atagctatgg aaagatgcat agaaagagta 1800

taatgtttta aaacataagg cattcatctg ccatttttca ttacatgct gacttccctt 1860

acaattgaga tttgcccata ggttaaacat ggttagaaac aactgaaagc ataaaagaaa 1920

aatctaggcc gggtgcagtg gctcatgcct atattccctg cactttggga ggccaaagca 1980

ggaggatcgc ttgagcccag gagttcaaga ccaacctggt gaaaccccgt ctctacaaaa 2040

aaacacaaaa aatagccagg catggtggcg tgtacatgtg gtctcagata cttgggaggc 2100

tgaggtggga gggttgatca cttgaggctg agaggtcaag gttgcagtga gccataatcg 2160

tgccactgca gtccagccta ggcaacagag tgagactttg tctcaaaaaa agagaaattt 2220

tccttaataa gaaaagtaat ttttactctg atgtgcaata catttgttat taaatttatt 2280

atttaagatg gtagcactag tcttaaattg tataaaatat cccctaacat gtttaaatgt 2340

ccatttttat tcattatgct ttgaaaaata attatgggga aatacatgtt tgttattaaa 2400

tttattatta aagatagtag cactagtctt aaatttgata taacatctcc taacttgttt 2460

aaatgtccat ttttattctt tatgcttgaa aataaattat ggggatccta tttagctctt 2520

agtaccacta atcaaaagtt cggcatgtag ctcatgatct atgctgtttc tatgtcgtgg 2580

aagcaccgga tgggggtagt gagcaaatct gccctgctca gcagtcacca tagcagctga 2640

ctgaaaatca gcactgcctg agtagttttg atcagtttaa cttgaatcac taactgactg 2700

aaaattgaat gggcaaataa gtgcttttgt ctccagagta tgcgggagac ccttccacct 2760

caagatggat atttcttccc caaggatttc aagatgaatt gaaattttta atcaagatag 2820

tgtgctttat tctgttgtat tttttattat tttaatatac tgtaagccaa actgaaataa 2880

catttgctgt tttataggtt tgaagaacat aggaaaaact aagaggtttt gtttttattt 2940

ttgctgatga agagatatgt ttaaatatgt tgtattgttt tgtttagtta caggacaata 3000

atgaaatgga gtttatattt gttatttcta ttttgttata tttaataata gaattagatt 3060

gaaataaaat ataatgggaa ataatctgca gaatgtgggt ttcctggtgt ttcctctgac 3120

tctagtgcac tgatgatctc tgataaggct cagctgcttt atagttctct ggctaatgca 3180

gcagatactc ttcctgccag tggtaatacg atttttttaag aaggcagttt gtcaatttta 3240

atcttgtgga tacctttata ctcttagggt attattttat acaaaagcct tgaggattgc 3300

attctatttt ctatatgacc ctcttgatat ttaaaaaaca ctatggataa caattcttca 3360

tttacctagt attatgaaag aatgaaggag ttcaaacaaa tgtgtttccc agttaactag 3420

ggtttactgt ttgagccaat ataaatgttt aactgtttgt gatggcagta ttcctaaagt 3480

acattgcatg ttttcctaaa tacagagttt aaataatttc agtaattctt agatgattca 3540

gcttcatcat taagaatatc ttttgtttta tgttgagtta gaaatgcctt catatagaca 3600

tagtctttca gacctctact gtcagttttc atttctagct gctttcaggg ttttatgaat 3660

tttcaggcaa agctttaatt tatactaagc ttaggaagta tggctaatgc caacggcagt 3720

ttttttcttc ttaattccac atgactgagg catatatgat ctctgggtag gtgagttgtt 3780

gtgacaacca caagcacttt ttttttttt aaagaaaaaa aggtagtgaa tttttaatca 3840

tctggacttt aagaaggatt ctggagtata cttaggcctg aaattatata tatttggctt 3900

ggaaatgtgt ttttcttcaa ttacatctac aagtaagtac agctgaaatt cagaggaccc 3960

ataagagttc acatgaaaaa aatcaattca tttgaaaagg caagatgcag gagagaggaa 4020

gccttgcaaa cctgcagact gctttttgcc caatatagat tgggtaaggc tgcaaaacat 4080

aagcttaatt agctcacatg ctctgctctc acgtggcacc agtggatagt gtgagagaat 4140

taggctgtag aacaaatggc cttctctttc agcattcaca ccactacaaa atcatctttt 4200

atatcaacag aagaataagc ataaactaag caaaaggtca ataagtacct gaaaccaaga 4260

ttggctagag atatatctta atgcaatcca ttttctgatg gattgttacg agttggctat 4320

ataatgtatg tatggtattt tgatttgtgt aaaagtttta aaaatcaagc tttaagtaca 4380

tggacatttt taaataaaat atttaaagac aatttagaaa attgccttaa tatcattgtt 4440

ggctaaatag aataggggac atgcatatta aggaaaaggt catggagaaa taatattggt 4500

atcaaacaaa tacattgatt tgtcatgata cacattgaat ttgatccaat agtttaagga 4560

ataggtagga aaatttggtt tctatttttc gatttcctgt aaatcagtga cataaataat 4620

tcttagctta ttttatattt ccttgtctta aatactgagc tcagtaagtt gtgttagggg 4680

attatttctc agttgagact ttcttatatg acattttact atgttttgac ttcctgacta 4740

ttaaaaataa atagtagaaa caattttcat aaagtgaaga attatataat cactgcttta 4800

taactgactt tattatattt atttcaaagt tcatttaaag gctactattc atcctctgtg 4860

atggaatggt caggaatttg ttttctcata gtttaattcc aacaacaata ttagtcgtat 4920

ccaaaataac ctttaatgct aaactttact gatgtatatc caaagcttct ccttttcaga 4980

cagattaatc cagaagcagt cataaacaga agaataggtg gtatgttcct aatgatatta 5040

tttctactaa tggaataaac tgtaatatta gaaattatgc tgctaattat atcagctctg 5100

aggtaatttc tgaaatgttc agactcagtc ggaacaaatt ggaaaattta aatttttatt 5160

cttagctata aagcaagaaa gtaaacacat taatttcctc aacattttta agccaattaa 5220

aaatataaaa gatacacacc aatatcttct tcaggctctg acaggcctcc tggaaacttc 5280

cacatatttt tcaactgcag tataaagtca gaaaataaag ttaacataac tttcactaac 5340

acacacatat gtagatttca caaaatccac ctataattgg tcaaagtggt tgagaatata 5400

ttttttagta attgcatgca aaatttttct agcttccatc ctttctccct cgtttcttct 5460

ttttttgggg gagctggtaa ctgatgaaat cttttcccac cttttctctt caggaaatat 5520

aagtggtttt gtttggttaa cgtgatacat tctgtatgaa tgaaacattg gagggaaaca 5580

tctactgaat ttctgtaatt taaaatattt tgctgctagt taactatgaa cagatagaag 5640

aatcttacag atgctgctat aaataagtag aaaatataaa tttcatcact aaaatatgct 5700

attttaaaat ctatttccta tattgtattt ctaatcagat gtattactct tattatttct 5760

attgtatgtg ttaatgattt tatgtaaaaa tgtaattgct tttcatgagt agtatgaata 5820

aaattgatta gtttgtgttt tcttgtctcc cgaaaaaaaa aaaaaaaaaa aaaaaaaaaa 5880

aa 5882

<210> 31
<211> 310
<212> DNA
<213> Homo sapiens

<400> 31
cggccccaga aaacccgagc gagtaggggg cggcgcgcag gagggaggag aactgggggc 60

gcgggaggct ggtgggtgtc gggggtggag atgtagaaga tgtgacgccg cggcccggcg 120

ggtgccagat tagcggacgg ctgcccgcgg ttgcaacggg atcccgggcg ctgcagcttg 180

ggaggcggct ctccccaggc ggcgtccgcg gagacaccca tccgtgaacc ccaggtcccg 240

ggccgccggc tcgccgcgca ccaggggccg gcggacagaa gagcggccga gcggctcgag 300

gctgggggac 310

<210> 32
<211> 3212
<212> DNA
<213> Homo sapiens

<400> 32
tgagggcgcc aggcaggcgg gcgccaccgc cacccgcagc gagggcggag ccggccccag 60

gtgctcccct gacagtccct cctctccgga gcattttgat accagaaggg aaagcttcat 120

tctccttgtt gttggttgtt ttttcctttg ctctttcccc cttccatctc tgacttaagc 180

aaaagaaaaa gattacccaa aaactgtctt taaaagagag agagagaaaa aaaaaatagt 240

atttgcataa ccctgagcgg tgggggagga gggttgtgct acagatgata gaggatttta 300

taccccaata atcaactcgt ttttatatta atgtacttgt ttctctgttg taagaatagg 360

cattaacaca aaggaggcgt ctcgggagag gattaggttc catcctttac gtgtttaaaa 420

aaaagcataa aaacatttta aaaacataga aaaattcagc aaaccatttt taaagtagaa 480

gagggtttta ggtagaaaaa catattcttg tgcttttcct gataaagcac agctgtagtg 540

gggttctagg catctctgta ctttgcttgc tcatatgcat gtagtcactt tataagtcat 600

tgtatgttat tatattccgt aggtagatgt gtaacctctt caccttattc atggctgaag 660

tcacctcttg gttacagtag cgtagcgtgg ccgtgtgcat gtcctttgcg cctgtgacca 720

ccaccccaac aaaccatcca gtgacaaacc atccagtgga ggtttgtcgg gcaccagcca 780

gcgtagcagg gtcgggaaag gccacctgtc ccactcctac gatacgctac tataaagaga 840

agacgaaata gtgacataat atattctatt tttatactct tcctattttt gtagtgacct 900

gtttatgaga tgctggtttt ctacccaacg gccctgcagc cagctcacgt ccaggttcaa 960

cccacagcta cttggtttgt gttcttcttc atattctaaa accattccat ttccaagcac 1020

tttcagtcca ataggtgtag gaaatagcgc tgtttttgtt gtgtgtgcag ggagggcagt 1080

tttctaatgg aatggtttgg gaatatccat gtacttgttt gcaagcagga ctttgaggca 1140

agtgtgggcc actgtggtgg cagtggaggt ggggtgtttg ggaggctgcg tgccagtcaa 1200

gaagaaaaag gtttgcattc tcacattgcc aggatgataa gttcctttcc ttttctttaa 1260

agaagttgaa gtttaggaat cctttggtgc caactggtgt ttgaaagtag ggacctcaga 1320

ggtttaccta gagaacaggt ggtttttaag ggttatctta gatgtttcac accggaaggt 1380

ttttaaacac taaaatatat aatttatagt taaggctaaa aagtatattt attgcagagg 1440

atgttcataa ggccagtatg atttataaat gcaatctccc cttgatttaa acacacagat 1500

acacacacac acacacacac acacacaaac cttctgcctt tgatgttaca gatttaatac 1560

agtttatttt taaagataga tccttttata ggtgagaaaa aaacaatctg gaagaaaaaa 1620

accacacaaa gacattgatt cagcctgttt ggcgtttccc agagtcatct gattggacag 1680

gcatgggtgc aaggaaaatt agggtactca acctaagttc ggttccgatg aattcttatc 1740

ccctgcccct tcctttaaaa aacttagtga caaaatagac aatttgcaca tcttggctat 1800

gtaattcttg taatttttat ttaggaagtg ttgaagggag gtggcaagag tgtggaggct 1860

gacgtgtgag ggaggacagg cgggaggagg tgtgaggagg aggctcccga ggggaagggg 1920

cggtgcccac accggggaca ggccgcagct ccatttttctt attgcgctgc taccgttgac 1980

ttccaggcac ggtttggaaa tattcacatc gcttctgtgt atctctttca cattgtttgc 2040

tgctattgga ggatcagttt tttgttttac aatgtcatat actgccatgt actagtttta 2100

gttttctctt agaacattgt attacagatg ccttttttgt agtttttttt ttttttatgt 2160

gatcaatttt gacttaatgt gattactgct ctattccaaa aaggttgctg tttcacaata 2220

cctcatgctt cacttagcca tggtggaccc agcgggcagg ttctgcctgc tttggcgggc 2280

agacacgcgg gcgcgatccc acacaggctg gcgggggccg gccccgaggc cgcgtgcgtg 2340

agaaccgcgc cggtgtcccc agagaccagg ctgtgtccct cttctcttcc ctgcgcctgt 2400

gatgctgggc acttcatctg atcgggggcg tagcatcata gtagttttta cagctgtgtt 2460

attctttgcg tgtagctatg gaagttgcat aattattatt attattatta taacaagtgt 2520

gtcttacgtg ccaccacggc gttgtacctg taggactctc attcgggatg attggaatag 2580

cttctggaat ttgttcaagt tttgggtatg tttaatctgt tatgtactag tgttctgttt 2640

gttattgttt tgttaattac accataatgc taatttaaag agactccaaa tctcaatgaa 2700

gccagctcac agtgctgtgt gccccggtca cctagcaagc tgccgaacca aaagaatttg 2760

caccccgctg cgggcccacg tggttggggc cctgccctgg cagggtcatc ctgtgctcgg 2820

aggccatctc gggcacaggc ccaccccgcc ccacccctcc agaacacggc tcacgcttac 2880

ctcaaccatc ctggctgcgg cgtctgtctg aaccacgcgg gggccttgag ggacgctttg 2940

tctgtcgtga tggggcaagg gcacaagtcc tggatgttgt gtgtatcgag aggccaaagg 3000

ctggtggcaa gtgcacgggg cacagcggag tctgtcctgt gacgcgcaag tctgagggtc 3060

tgggcggcgg gcggctgggt ctgtgcattt ctggttgcac cgcggcgctt cccagcacca 3120

acatgtaacc ggcatgtttc cagcagaaga caaaaagaca aacatgaaag tctagaaata 3180

aaactggtaa aaccccaaaa aaaaaaaaaa aa 3212

<210> 33
<211> 1043
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (409)..(444)
<223> n = a, t, g or c

<400> 33
gcaccgcggc gagcttggct gcttctgggg cctgtgtggc cctgtgtgtc ggaaagatgg 60

agcaagaagc cgagcccgag gggcggccgc gacccctctg accgagatcc tgctgctttc 120

gcagccagga gcaccgtccc tccccggatt agtgcgtacg agcgcccagt gccctggccc 180

ggagagtgga atgatccccg aggcccaggg cgtcgtgctt ccgcgcgccc cgtgaaggaa 240

actggggagt cttgagggac ccccgactcc aagcgcgaaa accccggatg gtgaggagca 300

ggtactggcc cggcagcgag cggtcacttt tgggtctggg ctctgacggt gtcccctcta 360

tcgctggttc ccagcctctg cccgttcgca gcctttgtgc ggttcgtgnc tgggggctcg 420

gggcgcgggg cgcggggcat gggncacgtg gctttgcgga ggttttgttg gactggggct 480

agacagtccc cgccagggag gagggcggga tttcggacgg ctctcgcggc ggtgggggtg 540

ggggtggttc ggaggtctcc gcgggagttc agggtaaagg tcacggggcc ggggctgcgg 600

gccgcttcgg cgcgggaggt ccggatgatc gcagtgcctg tcgggtcact agtgtgaacg 660

ctgcgcgtag tctgggcggg attgggccgg ttcagtgggc aggttgactc agcttttcct 720

cttgagctgg tcaagttcag acacgttccg aaactgcagt aaaaggagtt aagtcctgac 780

ttgtctccag ctggggctat ttaaaccatg cattttccca gctgtgttca gtggcgattg 840

gagggtagac ctgtgggcac ggacgcacgc cacttttttct ctgctgatcc aggtaagcac 900

cgacttgctt gtagctttag ttttaactgt tgtttatgtt ctttatatat gatgtatttt 960

ccacagatgt ttcatgattt ccagttttca tcgtgtcttt tttttccttg taggcaaatg 1020

tgcaatacca acatgtctgt acc 1043

<210> 34
<211> 1153
<212> DNA
<213> Homo sapiens

<400> 34
tagttgacct gtctataaga gaattatata tttctaacta tataacccta ggaatttaga 60

caacctgaaa tttattcaca tatatcaaag tgagaaaatg cctcaattca catagatttc 120

ttctctttag tataattgac ctactttggt agtggaatag tgaatactta ctataatttg 180

acttgaatat gtagctcatc ctttacacca actcctaatt ttaaataatt tctactctgt 240

cttaaatgag aagtacttgg ttttttttttt cttaaatatg tatatgacat ttaaatgtaa 300

cttattattt tttttgagac cgagtcttgc tctgttaccc aggctggagt gcagtgggtg 360

atcttggctc actgcaagct ctgccctccc cgggttcgca ccattctcct gcctcagcct 420

cccaattagc ttggcctaca gtcatctgcc accacacctg gctaattttt tgtactttta 480

gtagagacag ggtttcaccg tgttagccag gatggtctcg atctcctgac ctcgtgatcc 540

gcccacctcg gcctcccaaa gtgctgggat tacaggcatg agccaccgtg ctctccagcc 600

taggcaacag agtgagactc tgtctccaaa aaaaaaaaaa aaaaaagggg actataacac 660

ccccagggaa agggacaggt gggacattct tattcttaat ttaaataaat tgacagggga 720

aagttgggcc actcttgagc ttgtgggtgc tcaccaggtt gaccccaaaa aaagaagcct 780

tccacaaaac attaatttat ttccctaata tacccgcctc tgtgagttaa gggataatgc 840

atcaggactc ttgcaaccag acaaaattat ttaaaaacgc cacttggggg ggaggcgggt 900

ccctcctggg gattcgcctt tgtgggagag aaaactgcac agacttgggc aaataatgtt 960

ttttgtcacc ccaaaacgta ttcgcgagac atttcattag aacgaagctt taccctaata 1020

ttgaactccc catttaaaca gtttccacac acacttaggg agatttttcc ctctgtgagt 1080

tccgcagaac aatagttgga cgggaataga accctgaaac actttagttc accacgaact 1140

attatagggc ggg 1153

<210> 35
<211> 334
<212> DNA
<213> Homo sapiens

<400> 35
tgactatcca gctctgagag acgggagttt ggagttgccc gctttacttt ggttgggttg 60

ggggggggcgg cgggctgttt tgttcctttt ctttttttaag agttgggttt tctttttttaa 120

ttatccaaac agtgggcagc ttcctccccc acacccaagt atttgcacaa tatttgtgcg 180

gggtatgggg gtgggttttt aaatctcgtt tctcttggac aagcacaggg atctcgttct 240

cctcattttt tgggggtgtg tggggacttc tcaggtcgtg tccccagcct tctctgcagt 300

cccttctgcc ctgccgggcc cgtcgggagg cgcc 334

<210> 36
<211> 543
<212> DNA
<213> Homo sapiens

<400> 36
tagctcagga ccttggctgg gcctggtcgt catgtaggtc aggaccttgg ctggacctgg 60

aggccctgcc cagccctgct ctgcccagcc cagcaggggc tccaggcctt ggctggcccc 120

acatcgcctt ttcctccccg acacctccgt gcacttgtgt ccgaggagcg aggagcccct 180

cgggccctgg gtggcctctg ggccctttct cctgtctccg ccactccctc tggcggcgct 240

ggccgtggct ctgtctctct gaggtgggtc gggcgccctc tgcccgcccc ctcccacacc 300

agccaggctg gtctcctcta gcctgtttgt tgtggggtgg gggtatattt tgtaaccact 360

gggcccccag cccctctttt gcgacccctt gtcctgacct gttctcggca ccttaaatta 420

ttagaccccg gggcagtcag gtgctccgga cacccgaagg caataaaaca ggagccgtga 480

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 540

aaa 543

<210> 37
<211> 511
<212> DNA
<213> Homo sapiens

<400> 37
gctcagcaag gggtccgtcc ttctctgtca ctgtctcttt tgcctgttgt aattctgtct 60

gcctctctgg gactctgcct gtctcactct ttctgtctgt gcctctcctc actcttgttc 120

tttctgcctg aatcacagcc ctcagttttt ctgtcctcat gcatttgtct ttgtggctct 180

ttccgtcttt ctgcccttga caccatcccc tctcccagtg cttcccctct gcttccagat 240

cgcttcatga cttaggcagg gaaacagagg tcagggcctc cttccaggct tccctctgca 300

tcttactgag tatgcaggtc ggaagagcct cgggtcctgc ctccgcgggt ggcctagagc 360

caaaggaagg cggagcccgt cggggcggga ttggcccttа gggccacctc ataaagcctg 420

gggcgagggg cacaacggcc ttgggaagga gccctgctgg ggccgtccag tcccccagac 480

ctcacaggct cagtcgcgga tctgcagtgt c 511

<210> 38
<211> 458
<212> DNA
<213> Homo sapiens

<400> 38
tagtagggac cagtgaccat cacatccctt caagagtcct gaagatcaag ccagttctcc 60

ttccctgcag agctttggcc attaccacct gacctcttgc tgccagctaa taagaagtgc 120

caagtggaca gtctggccac tgtcaaggca gggaaggggc catgactttt ctgccctgcc 180

ctcagcctgt tgccctgcct cccaaacccc attagtctag ccttgtagct gttactgcaa 240

gtgtttcttc tggcttagtc tgttttctaa agccaggact attccctttc ctccccagga 300

atatgtgttt tcctttgtct taatcgatct ggtaggggag aaatggcgaa tgtcatacac 360

atgagatggt atatccttgc gatgtacaga atcagaaggt ggtttgacag catcataaac 420

aggctgactg gcaggaatga aaaaaaaaaa aaaaaaaa 458

<210> 39
<211> 270
<212> DNA
<213> Homo sapiens

<400> 39
ggggccgccg agagccgcag cgccgctcgc ccgccgcccc ccaccccgcc gccccgcccg 60

gcgaattgcg ccccgcgccc tcccctcgcg cccccgagac aaagaggaga gaaagtttgc 120

gcggccgagc gggcaggtga ggagggtgag ccgcgcggag gggcccgcct cggccccggc 180

tcagcccccg cccgcgcccc cagcccgccg ccgcgagcag cgcccggacc ccccagcggc 240

ggccccgccc gcccagcccc ccggcccgcc 270

<210> 40
<211> 751
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (535)..(734)
<223> n = a, t, g or c

<400> 40
taagcaggcc tccaacgccc ctgtggccaa ctgcaaaaaa agcctccaag ggtttcgact 60

ggtccagctc tgacatccct tcctggaaac agcatgaata aaacactcat cccatgggtc 120

caaattaata tgattctgct ccccccttct ccttttagac atggttgtgg gtctggaggg 180

agacgtgggt ccaaggtcct catcccatcc tccctctgcc aggcactatg tgtctggggc 240

ttcgatcctt gggtgcaggc agggctggga cacgcggctt ccctcccagt ccctgccttg 300

gcaccgtcac agatgccaag caggcagcac ttagggatct cccagctggg ttagggcagg 360

gcctggaaat gtgcattttg cagaaacttt tgagggtcgt tgcaagactg tgtagcaggc 420

ctaccaggtc cctttcatct tgagagggac atggcccctt gttttctgca gcttccacgc 480

ctctgcactc cctgcccctg gcaagtgctc ccatcgcccc cggtgcccac catgnagctc 540

cccgcacctg actcccccca catccaaggg cagccctgga accagtgggc tagttccttg 600

aaggaagccc cactcattcc tattaatccc tcagaattcc cgggggggagc cttccctcct 660

gaaccttggt aaaaaatggg gaacgagaaa aacccccgct tggagctgtg cgtttccagc 720

ccctacttga gagnctttt tttgggggcc g 751

<210> 41
<211> 229
<212> DNA
<213> Homo sapiens

<400> 41
cgcgccgggc ccggctcggc ccgacccggc tccgcgcggg caggcggggc ccagcgcact 60

cggagcccga gcccgagccg cagccgccgc ctggggcgct tgggtcggcc tcgaggacac 120

cggagagggg cgccacgccg ccgtggccgc agatttgaaa gaagccgaca ctaaaccacc 180

aatatacaac aaggccattt tgtcaaacga gagtcagcct ttaacgaaa 229

<210> 42
<211> 233
<212> DNA
<213> Homo sapiens

<400> 42
tagcagagag tcctgagcca ctgccaacat ttcccttctt ccagttgcac tattctgagg 60

gaaaatctga cacctaagaa atttactgtg aaaaagcatt ttaaaaagaa aaggttttag 120

aatatgatct attttatgca tattgtttat aaagacacat ttacaattta cttttaatat 180

taaaaattac catattatga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 233

<210> 43
<211> 349
<212> DNA
<213> Homo sapiens

<400> 43
ggcacgaggg gcgagaggaa gcagggagga gagtgatttg agtagaaaag aaacacagca 60

ttccaggctg gccccacctc tatattgata agtagccaat gggagcgggt agccctgatc 120

cctggccaat ggaaactgag gtaggcgggt catcgcgctg gggtctgtag tctgagcgct 180

acccggttgc tgctgcccaa ggaccgcgga gtcggacgca ggcagaccat gtggaccctg 240

gtgagctggg tggccttaac agcagggctg gtggctggaa cgcggtgccc agatggtcag 300

ttctgccctg tggcctgctg cctggacccc ggaggagcca gctacagct 349

<210> 44
<211> 337
<212> DNA
<213> Homo sapiens

<400> 44
tgagggacag tactgaagac tctgcagccc tcgggacccc actcggaggg tgccctctgc 60

tcaggcctcc ctagcacctc cccctaacca aattctccct ggaccccatt ctgagctccc 120

catcaccatg ggaggtgggg cctcaatcta aggccttccc tgtcagaagg gggttgtggc 180

aaaagccaca ttacaagctg ccatcccctc cccgtttcag tggaccctgt ggccaggtgc 240

ttttccctat ccacaggggt gtttgtgtgt gtgcgcgtgt gcgtttcaat aaagtttgta 300

cactttcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 337

<210> 45
<211> 1700
<212> DNA
<213> Homo sapiens

<400> 45
tgtttgcatt aagttcatag attataattt gtaatggaat caacaccaaa tgcaaattag 60

aaagagagcc cactttgctc acccagtcac gtcttcccat gtaaccatag aacgttgggg 120

tcctgtgtct ttctagatcc acagtcttgc tctcagaaca ggctagccac accacaggcc 180

tagtgccagg acccatggcc ttttttttaag ctcagactcc cttctgtgaa cagcaatatc 240

cccacaactt gtacaacatt ggtgcttcct gcaagggcta cagaactatt tgatacgaaa 300

atgttcattg acttacacac aagagaagca caaaataaaa aattaataat taatttaatg 360

tctttgaaaa tgtaccattt atttttacat ttggggtcat aagaattgta ttacacttaa 420

gaatgcaata caatttgaag atcagatttt tctccctttg tgagaatttc tcagtatgtg 480

tgatgactac caagaaatca tagccagtca taaattcagt gagttactca taaacgaaca 540

agaaccacct acttcttggg gaggtaggtc tgcttccctt caactcagga tacaactgct 600

ttcaactgct ttcttcacat tagctgacta attagctaga agcctgtcgt aaacaatttt 660

atggttgact ccttccctgg gctcagggtt ccctagaaca gagaggtccc caaatcccgg 720

tctgtggcct gtccgcctaa gctctgcctc ctgccagatc agcaggcagc attagattct 780

cataggagct ggacgcctat tgtgaactgc gcatgtgcgg gatccagatt gtgcactctt 840

tatgagaatc taactaatgc ttgatgatct atctgaacca gaacaatttc atcctgaaac 900

catcccccac caatccatag aaatactgtc ttccacaaaa atgatccctg gtgccaaaaa 960

tgttagagac cactccccta aaactctctt cttagctctc acctcctgta ttactatctc 1020

atctcagtac attgaagccc ccatcttttc cccatggatg cctcatttcc tattagggag 1080

gcatttttt attttttgtt tttatttttt tccgagacgg agtctcgctc tgtcgccaag 1140

gctggagtgc agtggcgcga tctcggctca ctgcaagctc cgcctcccgg gttcacgcca 1200

ttctcctgcc tcagcctccc aagtagctgg gactacaggc gcccgcacta cgcccggcta 1260

atttttgta tttttagtag agacggggtt tcaccgtggt agccaggatg gtctcgatct 1320

cctgacctcg tgatccgccc gccttggcct cccaaagtgc tgggattaca ggcgtgagac 1380

cgcgcccggc cgtcatttgg tatgtcttaa tgtgcctcag gacctagcac agtccctggt 1440

acccagtaga gacctatgta atgttcgtta ttcaataata aatacatgaa ttaaagagtg 1500

agagtggatt ttgtaatgtt acgactgata gagaaatact cagtgattct aagggatggg 1560

gaagaacggt tggagctaga ggttgtgctc aggaaactat taaatagacg ttccgcagga 1620

agggattgac gaagtgtgag gttaatgagg aagggaaaat agaatataaa atttggtggt 1680

ggaaaagatc tgattcatga 1700

<210> 46
<211> 2419
<212> DNA
<213> Homo sapiens

<400> 46
taaccagcgg gcccctggtc aagtgctggc tctgctgtcc ttgccttcca tttcccctct 60

gcacccagaa cagtggtggc aacattcatt gccaagggcc caaagaaaga gctacctgga 120

ccttttgttt tctgtttgac aacatgttta ataaataaaa atgtcttgat atcagtaaga 180

atcagagtct tctcactgat tctgggcata ttgatctttc ccccattttc tctacttggc 240

tgctccctga gaggactgca taggatagaa atgccttttt cttttctttt cgttttttt 300

ttttttttt tttgagatgg agtctcactc tgtcgcccag gcttaagtgc aatggcacaa 360

tctcggctca ctgcaacctc tctctcctgg gttcaagtga ttctcctgcc tcagcctccc 420

aaatagctga gattacaggc atgcaccacc acacctggct aatttttgtg tttttagtag 480

agacagggtt tcaccgtttt ggccaggttg gtcttgaact cctgacctcg ggagatccgc 540

ccaccttggc ctctctttgt gctgggatta caggcatgag ccactgagcc gggccacttt 600

ttccttatca gtcagttttt acaagtcatt agggaggtag actttacctc tctgtgaagg 660

aaagtatggt atgttgatct acagagagag atggaaaaat tccagggctc gtagctacta 720

agcagaattt ccaagatagg caaattgttt tttctgtcaa ataataagct aatattactt 780

ctacaaatat gagaccttgg agagaagttt ccaaggacca agtaccaaca taccaacaga 840

ttattatagt ttctctcact cttacacaca cacacacaca tatacacata tgtaatccag 900

catgaatacc aaaattcatt cagggtagcc acctttttgtc ttaatcgaga gataattttg 960

atgtttgaat ggaatgctcc caggatattc tcttgtcatg gttattttat ataaaattca 1020

aaaaccaatt acattatttc ctctgtaatc ttttacttta tcaactaatg tctggcaagt 1080

gtgatgtttt ggggaagtta tagaagattc cggccaggcg cttatctcac gcttgtaatc 1140

cagcactttg ggaagctgag gcggacagat cacgaggtca agagatcaag accatcctgg 1200

acaacatggt gaaaccttgt ctctactaaa aatgtgaaaa ttagctgggc gtggtggcac 1260

acacctatag tcccagctac tcgggaggct gaggcaggag aatcgcttga acctaggagg 1320

cggaggttgc actgagccga gatcacgcca ctgcactcca gcctgggcga cagagcgaga 1380

ctccatctca aaaaaaaaaa aaaaagaaag atcccagttt atcccagttt atcccttatt 1440

cttcctcaat tctcaagatt tgtttttaag ttaacataac ttaggttaac acactctttg 1500

taaaatacac tgttcaatct acagactcag tggttagctt cctgttaact aatttctgtt 1560

gacaggtact tggatatttt atttagaaag tggttgccaa taaattagtt ataagtcgcc 1620

agtttcactg ccttgtgaac acataattat tgtggtctca gtattcccta tggtggcttc 1680

tcctgctcct ggtattgccc tgaaatgggc caaaagccgt ggctccccaa tgctcaggtt 1740

atagaacatt gtccaggtac cacctaggag agcccagcct cactgaaagt attcaaattt 1800

aggaatgggt ttgagaagta ggtagctggt atgtgcttag cacaagaatc tctcttcctt 1860

gggttagtct gtttcaaaac tgaaaacact gtcattcctt aagaaaatag gaaaaagtat 1920

tccaaacctc tgtcactaga aaatttgcca tattaccaaa tctcaaaaac ctctcaggaa 1980

atgagaaagt cccagtttct ggtaaactat ttgggccctt ttctcaagtt ctccttccag 2040

tgctatttcc ttgaggtgag gcaaagttac tcaagatcat cgctgccact caaggccttg 2100

atagggcaag tgaaaggcat ggaccattat tatattgatc acagcataag ctgtgaaaac 2160

ccacatcttc tccaaacatc tgcttggagc attatcatcg catagtttgc tctggtgttc 2220

agggaaatcg ctgtttcata ggaaatcaca tggcagtggg atgggagtgt ttcctgacct 2280

gccgatggta ctggcacctg agcaagcatt cctagtcctt tttggtctgg gcctcttgtt 2340

ctatcacaac cacaagctgt ttaaaataaa aacgtcaagt cacaggcagg tcattttatc 2400

ctgcgtgaat caattgaag 2419

<210> 47
<211> 297
<212> DNA
<213> Homo sapiens

<400> 47
tcctcagtgc acagtgctgc ctcgtctgag gggacaggag gatcaccctc ttcgtcgctt 60

cggccagtgt gtcgggctgg gccctgacaa gccacctgag gagaggctcg gagccgggcc 120

cggaccccgg cgattgccgc ccgcttctct ctagtctcac gaggggtttc ccgcctcgca 180

cccccacctc tggacttgcc tttccttctc ttctccgcgt gtggagggag ccagcgctta 240

ggccggagcg agcctggggg ccgcccgccg tgaagacatc gcggggaccg attcacc 297

<210> 48
<211> 1192
<212> DNA
<213> Homo sapiens

<400> 48
tgagcttttt cttaatttca ttccttttt tggacactgg tggctcacta cctaaagcag 60

tctatttata ttttctacat ctaattttag aagcctggct acaatactgc acaaacttgg 120

ttagttcaat ttttgatccc ctttctactt aatttacatt aatgctcttt tttagtatgt 180

tctttaatgc tggatcacag acagctcatt ttctcagttt tttggtattt aaaccattgc 240

attgcagtag catcatttta aaaaatgcac ctttttattt atttatttt ggctagggag 300

tttatccctt tttcgaatta tttttaagaa gatgccaata taatttttgt aagaaggcag 360

taacctttca tcatgatcat aggcagttga aaaattttta caccttttt ttcacatttt 420

acataaataa taatgctttg ccagcagtac gtggtagcca caattgcaca atatattttc 480

ttaaaaaata ccagcagtta ctcatggaat atattctgcg tttataaaac tagtttttaa 540

gaagaaattt tttttggcct atgaaattgt taaacctgga acatgacatt gttaatcata 600

taataatgat tcttaaatgc tgtatggttt attatttaaa tgggtaaagc catttacata 660

atatagaaag atatgcatat atctagaagg tatgtggcat ttatttggat aaaattctca 720

attcagagaa atcatctgat gtttctatag tcactttgcc agctcaaaag aaaacaatac 780

cctatgtagt tgtggaagtt tatgctaata ttgtgtaact gatattaaac ctaaatgttc 840

tgcctaccct gttggtataa agatattttg agcagactgt aaacaagaaa aaaaaaatca 900

tgcattctta gcaaaattgc ctagtatgtt aatttgctca aaatacaatg tttgatttta 960

tgcactttgt cgctattaac atccttttt tcatgtagat ttcaataatt gagtaatttt 1020

agaagcatta ttttaggaat atatagttgt cacagtaaat atcttgtttt ttctatgtac 1080

attgtacaaa tttttcattc cttttgctct ttgtggttgg atctaacact aactgtattg 1140

ttttgttaca tcaaataaac atcttctgtg gaccaggaaa aaaaaaaaaa aa 1192

<210> 49
<211> 197
<212> DNA
<213> Homo sapiens

<400> 49
agacagcctt aacccacggg cgcgggcgag tcgtatgggc aggggcaggc gggagcgacg 60

tggggcgacg ctcacgaacg atcagagctg cgggcgacgc aacgaagccc ggaggccgca 120

ggctgcgcgc tccctcgcag cagccgggcg ggcaaaagcc cccagtcctc ggcccccgcg 180

caagcgacgc cgggaaa 197

<210> 50
<211> 3293
<212> DNA
<213> Homo sapiens

<400> 50
taattattta tattgtaaag aattttaaca gtcctgggga cttccttgaa ggatcatttt 60

cacttttgct cagaagaaag ctctggatct atcaaataaa gaagtccttc gtgtgggcta 120

catatataga tgttttcatg aagaggagtg aaaagccaga aggatataga caaatgaggc 180

ctaagacctt tcctgccagt aactatactg tcagtagccg gcaaatgtta caagaaattc 240

gggaatccct taggaattta tctaaaccat ctgatgctgc taaggctgag cataacatga 300

gtaaaatgtc aaccgaagat cctcgacaag tcagaaatcc acccaaattt gggacgcatc 360

ataaagcctt gcaggaaatt cgaaactctc tgcttccatt tgcaaatgaa acaaattctt 420

ctcggagtac ttcagaagtt aatccacaaa tgcttcaaga cttgcaagct gctggatttg 480

atgaggatat ggttatacaa gctcttcaga aaactaacaa cagaagtata gaagcagcaa 540

ttgaattcat tagtaaaatg agttaccaag atcctcgacg agagcagatg gctgcagcag 600

ctgccagacc tattaatgcc agcatgaaac cagggaatgt gcagcaatca gttaaccgca 660

aacagagctg gaaaggttct aaagaatcct tagttcctca gaggcatggc ccgccactag 720

gagaaagtgt ggcctatcat tctgagagtc ccaactcaca gacagatgta ggaagacctt 780

tgtctggatc tggtatatca gcatttgttc aagctcaccc tagcaacgga cagagagtga 840

acccccccacc accacctcaa gtaaggagtg ttactcctcc accacctcca agaggccaga 900

ctccccctcc aagaggtaca actccacctc ccccttcatg ggaaccaaac tctcaaacaa 960

agcgctattc tggaaacatg gaatacgtaa tctcccgaat ctctcctgtc ccacctgggg 1020

catggcaaga gggctatcct ccaccacctc tcaacacttc ccccatgaat cctcctaatc 1080

aaggacagag aggcattagt tctgttcctg ttggcagaca accaatcatc atgcagagtt 1140

ctagcaaatt taactttcca tcagggagac ctggaatgca gaatggtact ggacaaactg 1200

atttcatgat acaccaaaat gttgtccctg ctggcactgt gaatcggcag ccaccacctc 1260

catatcctct gacagcagct aatggacaaa gcccttctgc tttacaaaca gggggatctg 1320

ctgctccttc gtcatataca aatggaagta ttcctcagtc tatgatggtg ccaaacagaa 1380

atagtcataa catggaacta tataacatta gtgtacctgg actgcaaaca aattggcctc 1440

agtcatcttc tgctccagcc cagtcatccc cgagcagtgg gcatgaaatc cctacatggc 1500

aacctaacat accagtgagg tcaaattctt ttaataaccc attaggaaat agagcaagtc 1560

actctgctaa ttctcagcct tctgctacaa cagtcactgc aattacacca gctcctattc 1620

aacagcctgt gaaaagtatg cgtgtattaa aaccagagct acagactgct ttagcaccta 1680

cacacccttc ttggatacca cagccaattc aaactgttca acccagtcct tttcctgagg 1740

gaaccgcttc aaatgtgact gtgatgccac ctgttgctga agctccaaac tatcaaggac 1800

caccaccacc ctacccaaaa catctgctgc accaaaaccc atctgttcct ccatacgagt 1860

caatcagtaa gcctagcaaa gaggatcagc caagcttgcc caaggaagat gagagtgaaa 1920

agagttatga aaatgttgat agtggggata aagaaaagaa acagattaca acttcaccta 1980

ttactgttag gaaaaacaag aaagatgaag agcgaaggga atctcgtatt caaagttatt 2040

ctcctcaagc atttaaattc tttatggagc aacatgtaga aaatgtactc aaatctcatc 2100

agcagcgtct acatcgtaaa aaacaattag agaatgaaat gatgcgggtt ggattatctc 2160

aagatgccca ggatcaaatg agaaagatgc tttgccaaaa agaatctaat tacatccgtc 2220

ttaaaagggc taaaatggac aagtctatgt ttgtgaagat aaagacacta ggaataggag 2280

catttggtga agtctgtcta gcaagaaaag tagatactaa ggctttgtat gcaacaaaaa 2340

ctcttcgaaa gaaagatgtt cttcttcgaa atcaagtcgc tcatgttaag gctgagagag 2400

atatcctggc tgaagctgac aatgaatggg tagttcgtct atattattca ttccaagata 2460

aggacaattt atactttgta atggactaca ttcctggggg tgatatgatg agcctattaa 2520

ttagaatggg catctttcca gaaagtctgg cacgattcta catagcagaa cttacctgtg 2580

cagttgaaag tgttcataaa atgggtttta ttcatagaga tattaaacct gataatattt 2640

tgattgatcg tgatggtcat attaaattga ctgactttgg cctctgcact ggcttcagat 2700

ggacacacga ttctaagtac tatcagagtg gtgaccatcc acggcaagat agcatggatt 2760

tcagtaatga atgggggat ccctcaagct gtcgatgtgg agacagactg aagccattag 2820

agcggagagc tgcacgccag caccagcgat gtctagcaca ttctttggtt gggactccca 2880

attatattgc acctgaagtg ttgctacgaa caggatacac acagttgtgt gattggtgga 2940

gtgttggtgt tattcttttt gaaatgttgg tgggacaacc tcctttcttg gcacaaacac 3000

cattagaaac acaaatgaag gtcacctgct gctatataca tcattggctc gagaagaaac 3060

tactgaacac cctgcgagag agaagcctag aaaagaaaga aagggccaaa aggttttgaa 3120

ctcttcatcc ctaatttgct acactgatca aaaccaagta agggctcctg aagtccatga 3180

gtctatcatc aatcagcaca aatgctatac tagtttgtaa ctgcggggtc agttgtgaag 3240

gggaaggaca gcagtcttat ccatattcca ggaagccaca gtaaactgct cga 3293

<210> 51
<211> 424
<212> DNA
<213> Homo sapiens

<400> 51
cctactctat tcagatattc tccagattcc taaagattag agatcatttc tcattctcct 60

aggagtactc acttcaggaa gcaaccagat aaaagagagg tgcaacggaa gccagaacat 120

tcctcctgga aattcaacct gtttcgcagt ttctcgagga atcagcattc agtcaatccg 180

ggccgggagc agtcatctgt ggtgaggctg attggctggg caggaacagc gccggggcgt 240

gggctgagca cagcgcttcg ctctctttgc cacaggaagc ctgagctcat tcgagtagcg 300

gctcttccaa gctcaaagaa gcagaggccg ctgttcgttt cctttaggtc tttccactaa 360

agtcggagta tcttcttcca agatttcacg tcttggtggc cgttccaagg agcgcgaggt 420

cggg 424

<210> 52
<211> 706
<212> DNA
<213> Homo sapiens

<400> 52
tgaactctga ctgtatgaga tgttaaatac tttttaatat ttgtttagat atgacattta 60

ttcaaagtta aaagcaaaca cttacagaat tatgaagagg tatctgttta acatttcctc 120

agtcaagttc agagtcttca gagacttcgt aattaaagga acagagtgag agacatcatc 180

aagtggagag aaatcatagt ttaaactgca ttataaattt tataacagaa ttaaagtaga 240

ttttaaaaga taaaatgtgt aattttgttt atattttccc atttggactg taactgactg 300

ccttgctaaa agattataga agtagcaaaa agtattgaaa tgtttgcata aagtgtctat 360

aataaaacta aactttcatg tgactggagt catcttgtcc aaactgcctg tgaatatatc 420

ttctctcaat tggaatattg tagataactt ctgctttaaa aaagttttct ttaaatatac 480

ctactcattt ttgtgggaat ggttaagcag tttaaataat tcctgtgtat atgtctatca 540

cataggggtc taacagaaca atctggattc attatttcta ggacttgatc ctgctgatgc 600

tgaatttgca cattaaggtg tgttaacaac caaaacacag atcgatataa gaagtaagga 660

ggtggggaga ggcaaattat gatgtgctat gagttagatg tatagt 706

<210> 53
<211> 239
<212> DNA
<213> Homo sapiens

<400> 53
agtccgcggc gttccccggc tgcagccggg agggggccga ggagtgactg agccccgggc 60

tgtgcagtcc gacgccgact gaggcacgag cgggtgacgc tgggcctgca gcgcggagca 120

gaaagcagaa cccgcagagt cctccctgct gctgtgtgga cgacacgtgg gcacaggcag 180

aagtgggccc tgtgaccagc tgcactggtt tcgtggaagg aagctccagg actggcggg 239

<210> 54
<211> 641
<212> DNA
<213> Homo sapiens

<400> 54
tgaggcagct gctatcccca tctccctgcc tggcccccaa cctcagggct cccaggggtc 60

tccctggctc cctcctccag gcctgcctcc cacttcactg cgaagaccct cttgcccacc 120

ctgactgaaa gtagggggct ttctggggcc tagcgatctc tcctggccta tccgctgcca 180

gccttgagcc ctggctgttc tgtggttcct ctgctcaccg cccatcaggg ttctcttatc 240

aactcagaga aaaatgctcc ccacagcgtc cctggcgcag gtgggctgga cttctacctg 300

ccctcaaggg tgtgtatatt gtataggggc aactgtatga aaaattgggg aggaggggc 360

cgggcgcggt gctcacgcct gtaatcccag cactttggga ggccgaggcg ggtggatcac 420

gaggtcagga gatcgagacc atcctggcta acatggtgaa accccgtctc tactaaaaat 480

acaaaaaaaa tttagccggg cgcggtggcg ggcacctgta gtcccagcta cttgggaggc 540

tgaggcagga gaatggtgtg aacccgggag cggaggttgc agtgagctga gatcgtgcta 600

ctgcactcca gcctggggga cagaaagaga ctccgtctca a 641

<210> 55
<211> 493
<212> DNA
<213> Homo sapiens

<400> 55
tttctgtgaa gcagaagtct gggaatcgat ctggaaatcc tcctaatttt tactccctct 60

ccccccgact cctgattcat tgggaagttt caaatcagct ataactggag agagctgaag 120

attgatggga tcgttgcctt atgcctttgt tttggtttta caaaaaggaa acttgacaga 180

ggatcatgct atacttaaaa aatacaacat cgcagaggaa gtagactcat attaaaaata 240

cttactaata ataacgtgcc tcatgaagta aagatccgaa aggaattgga ataaaacttt 300

cctgcatctc aagccaaggg ggaaacacca gaatcaagtg ttccgcgtga ttgaagacac 360

cccctcgtcc aagaatgcaa agcacatcca ataaaagagc tggattataa ctcctcttct 420

ttctctgggg gccgtggggt gggagctggg gcgagaggtg ccgttggccc ccgttgcttt 480

tcctctggga ggg 493

<210> 56
<211> 5282
<212> DNA
<213> Homo sapiens

<400> 56
tgaagtcaac atgcctgccc caaacaaata tgcaaaaggt tcactaaagc agtagaaata 60

atatgcattg tcagtgatgt tccatgaaac aaagctgcag gctgtttaag aaaaaataac 120

acacatataa acatcacaca cacagacaga cacacacaca cacaacaatt aacagtcttc 180

aggcaaaacg tcgaatcagc tatttactgc caaagggaaa tatcatttat tttttacatt 240

attaagaaaa aaagatttat ttatttaaga cagtcccatc aaaactcctg tctttggaaa 300

tccgaccact aattgccaag caccgcttcg tgtggctcca cctggatgtt ctgtgcctgt 360

aaacatagat tcgctttcca tgttgttggc cggatcacca tctgaagagc agacggatgg 420

aaaaaggacc tgatcattgg ggaagctggc tttctggctg ctggaggctg gggagaaggt 480

gttcattcac ttgcatttct ttgccctggg ggctgtgata ttaacagagg gagggttcct 540

gtgggggaa gtccatgcct ccctggcctg aagaagagac tctttgcata tgactcacat 600

gatgcatacc tggtgggagg aaaagagttg ggaacttcag atggacctag tacccactga 660

gatttccacg ccgaaggaca gcgatgggaa aaatgcccct aaatcatagg aaagtatttt 720

tttaagctac caattgtgcc gagaaaagca ttttagcaat ttatacaata tcatccagta 780

ccttaagccc tgattgtgta tattcatata ttttggatac gcacccccca actcccaata 840

ctggctctgt ctgagtaaga aacagaatcc tctggaactt gaggaagtga acatttcggt 900

gacttccgca tcaggaaggc tagagttacc cagagcatca ggccgccaca agtgcctgct 960

tttaggagac cgaagtccgc agaacctgcc tgtgtcccag cttggaggcc tggtcctgga 1020

actgagccgg ggccctcact ggcctcctcc agggatgatc aacagggcag tgtggtctcc 1080

gaatgtctgg aagctgatgg agctcagaat tccactgtca agaaagagca gtagaggggt 1140

gtggctgggc ctgtcaccct ggggccctcc aggtaggccc gttttcacgt ggagcatggg 1200

agccacgacc cttcttaaga catgtatcac tgtagaggga aggaacagag gccctgggcc 1260

cttcctatca gaaggacatg gtgaaggctg ggaacgtgag gagaggcaat ggccacggcc 1320

cattttggct gtagcacatg gcacgttggc tgtgtggcct tggcccacct gtgagtttaa 1380

agcaaggctt taaatgactt tggagagggt cacaaatcct aaaagaagca ttgaagtgag 1440

gtgtcatgga ttaattgacc cctgtctatg gaattacatg taaaacatta tcttgtcact 1500

gtagtttggt tttatttgaa aacctgacaa aaaaaaagtt ccaggtgtgg aatatggggg 1560

ttatctgtac atcctggggc attaaaaaaa aaatcaatgg tggggaacta taaagaagta 1620

acaaaagaag tgacatcttc agcaaataaa ctaggaaatt tttttttctt ccagtttaga 1680

atcagccttg aaacattgat ggaataactc tgtggcatta ttgcattata taccatttat 1740

ctgtattaac tttggaatgt actctgttca atgtttaatg ctgtggttga tatttcgaaa 1800

gctgctttaa aaaaatacat gcatctcagc gttttttttgt ttttaattgt atttagttat 1860

ggcctataca ctatttgtga gcaaaggtga tcgttttctg tttgagattt ttatctcttg 1920

attcttcaaa agcattctga gaaggtgaga taagccctga gtctcagcta cctaagaaaa 1980

acctggatgt cactggccac tgaggagctt tgtttcaacc aagtcatgtg catttccacg 2040

tcaacagaat tgtttattgt gacagttata tctgttgtcc ctttgacctt gtttcttgaa 2100

ggtttcctcg tccctgggca attccgcatt taattcatgg tattcaggat tacatgcatg 2160

tttggttaaa cccatgagat tcattcagtt aaaaatccag atggcaaatg accagcagat 2220

tcaaatctat ggtggtttga cctttagaga gttgctttac gtggcctgtt tcaacacaga 2280

cccacccaga gccctcctgc cctccttccg cgggggcttt ctcatggctg tccttcaggg 2340

tcttcctgaa atgcagtggt gcttacgctc caccaagaaa gcaggaaacc tgtggtatga 2400

agccagacct ccccggcggg cctcagggaa cagaatgatc agacctttga atgattctaa 2460

tttttaagca aaatattatt ttatgaaagg tttacattgt caaagtgatg aatatggaat 2520

atccaatcct gtgctgctat cctgccaaaa tcattttaat ggagtcagtt tgcagtatgc 2580

tccacgtggt aagatcctcc aagctgcttt agaagtaaca atgaagaacg tggacgcttt 2640

taatataaag cctgttttgt cttctgttgt tgttcaaacg ggattcacag agtatttgaa 2700

aaatgtatat atattaagag gtcacggggg ctaattgctg gctggctgcc ttttgctgtg 2760

gggttttgtt acctggtttt aataacagta aatgtgccca gcctcttggc cccagaactg 2820

tacagtattg tggctgcact tgctctaaga gtagttgatg ttgcattttc cttattgtta 2880

aaaacatgtt agaagcaatg aatgtatata aaagcctcaa ctagtcattt ttttctcctc 2940

ttctttttt tcattatatc taattatttt gcagttgggc aacagagaac catccctatt 3000

ttgtattgaa gagggattca catctgcatc ttaactgctc tttatgaatg aaaaaacagt 3060

cctctgtatg tactcctctt tacactggcc agggtcagag ttaaatagag tatatgcact 3120

ttccaaattg gggacaaggg ctctaaaaaa agccccaaaa ggagaagaac atctgagaac 3180

ctcctcggcc ctcccagtcc ctcgctgcac aaatactccg caagagaggc cagaatgaca 3240

gctgacaggg tctatggcca tcgggtcgtc tccgaagatt tggcaggggc agaaaactct 3300

ggcaggctta agatttggaa taaagtcaca gaatcaagga agcacctcaa tttagttcaa 3360

acaagacgcc aacattctct ccacagctca cttacctctc tgtgttcaga tgtggccttc 3420

catttatatg tgatctttgt tttattagta aatgcttatc atctaaagat gtagctctgg 3480

cccagtggga aaaattagga agtgattata aatcgagagg agttataata atcaagatta 3540

aatgtaaata atcagggcaa tcccaacaca tgtctagctt tcacctccag gatctattga 3600

gtgaacagaa ttgcaaatag tctctatttg taattgaact tatcctaaaa caaatagttt 3660

ataaatgtga acttaaactc taattaattc caactgtact tttaaggcag tggctgtttt 3720

tagactttct tatcacttat agttagtaat gtacacctac tctatcagag aaaaacagga 3780

aaggctcgaa atacaagcca ttctaaggaa attagggagt cagttgaaat tctattctga 3840

tcttattctg tggtgtcttt tgcagcccag acaaatgtgg ttacacactt tttaagaaat 3900

acaattctac attgtcaagc ttatgaaggt tccaatcaga tctttattgt tattcaattt 3960

ggatctttca gggatttttt ttttaaatta ttatgggaca aaggacattt gttggagggg 4020

tgggagggag gaacaatttt taaatataaa acattcccaa gtttggatca gggagttgga 4080

agttttcaga ataaccagaa ctaagggtat gaaggacctg tattggggtc gatgtgatgc 4140

ctctgcgaag aaccttgtgt gacaaatgag aaacattttg aagtttgtgg tacgaccttt 4200

agattccaga gacatcagca tggctcaaag tgcagctccg tttggcagtg caatggtata 4260

aatttcaagc tggatatgtc taatgggtat ttaaacaata aatgtgcagt tttaactaac 4320

aggatattta atgacaacct tctggttggt agggacatct gtttctaaat gtttattatg 4380

tacaatacag aaaaaaattt tataaaatta agcaatgtga aactgaattg gagagtgata 4440

atacaagtcc tttagtctta cccagtgaat cattctgttc catgtctttg gacaaccatg 4500

accttggaca atcatgaaat atgcatctca ctggatgcaa agaaaatcag atggagcatg 4560

aatggtactg taccggttca tctggactgc cccagaaaaa taacttcaag caaacatcct 4620

atcaacaaca aggttgttct gcataccaag ctgagcacag aagatgggaa cactggtgga 4680

ggatggaaag gctcgctcaa tcaagaaaat tctgagacta ttaataaata agactgtagt 4740

gtagatactg agtaaatcca tgcacctaaa ccttttggaa aatctgccgt gggccctcca 4800

gatagctcat ttcattaagt ttttccctcc aaggtagaat ttgcaagagt gacagtggat 4860

tgcatttctt ttggggaagc tttcttttgg tggttttgtt tattatacct tcttaagttt 4920

tcaaccaagg tttgcttttg ttttgagtta ctggggttat ttttgtttta aataaaaata 4980

agtgtacaat aagtgttttt gtattgaaag cttttgttat caagattttc atacttttac 5040

cttccatggc tctttttaag attgatactt ttaagaggtg gctgatattc tgcaacactg 5100

tacacataaa aaatacggta aggatacttt acatggttaa ggtaaagtaa gtctccagtt 5160

ggccaccatt agctataatg gcactttgtt tgtgttgttg gaaaaagtca cattgccatt 5220

aaactttcct tgtctgtcta gttaatattg tgaagaaaaa taaagtacag tgtgagatac 5280

tg 5282

<210> 57
<211> 117
<212> DNA
<213> Homo sapiens

<400> 57
attcggggcg agggaggagg aagaagcgga ggaggcggct cccgctcgca gggccgtgca 60

cctgcccgcc cgcccgctcg ctcgctcgcc cgccgcgccg cgctgccgac cgccagc 117

<210> 58
<211> 430
<212> DNA
<213> Homo sapiens

<400> 58
tgatccaggg agcccccacc atccgggggg accccgagtg tcatctcttc tacaatgagc 60

agcaggaggc ttgcggggtg cacacccagc ggatgcagta gaccgcagcc agccggtgcc 120

tggcgccccc gccccccgcc cctctccaaa caccggcaga aaacggagag tgcttgggtg 180

gtgggtgctg gaggattttc cagttctgac acacgtattt atatttggaa agagaccagc 240

accgagctcg gcacctcccc ggcctctctc ttcccagctg cagatgccac acctgctcct 300

tcttgctttc cccgggggag gaaggggggtt gtggtcgggg agctggggta caggtttggg 360

gaggggggaag agaaattttt atttttgaac ccctgtgtcc cttttgcata agattaaagg 420

aaggaaaagt 430

<210> 59
<211> 192
<212> DNA
<213> Homo sapiens

<400> 59
tcctaggcgg cggccgcggc ggcggaggca gcagcggcgg cggcagtggc ggcggcgaag 60

gtggcggcgg ctcggccagt actcccggcc cccgccattt cggactggga gcgagcgcgg 120

cgcaggcact gaaggcggcg gcggggccag aggctcagcg gctcccaggt gcgggagaga 180

ggcctgctga aa 192

<210> 60
<211> 4172
<212> DNA
<213> Homo sapiens

<400> 60
taaatacaat ttgtactttt ttcttaaggc atactagtac aagtggtaat ttttgtacat 60

tacactaaat tattagcatt tgttttagca ttacctaatt tttttcctgc tccatgcaga 120

ctgttagctt ttaccttaaa tgcttatttt aaaatgacag tggaagtttt tttttcctcg 180

aagtgccagt attcccagag ttttggtttt tgaactagca atgcctgtga aaaagaaact 240

gaatacctaa gatttctgtc ttggggtttt tggtgcatgc agttgattac ttcttatttt 300

tcttaccaag tgtgaatgtt ggtgtgaaac aaattaatga agcttttgaa tcatccctat 360

tctgtgtttt atctagtcac ataaatggat taattactaa tttcagttga gaccttctaa 420

ttggttttta ctgaaacatt gagggacaca aatttatggg cttcctgatg atgattcttc 480

taggcatcat gtcctatagt ttgtcatccc tgatgaatgt aaagttacac tgttcacaaa 540

ggttttgtct cctttccact gctattagtc atggtcactc tccccaaaat attatatttt 600

ttctataaaa agaaaaaaat ggaaaaaaat tacaaggcaa tggaaactat tataaggcca 660

tttccttttc acattagata aattactata aagactccta atagcttttt cctgttaagg 720

cagacccagt atgaatggga ttattatagc aaccattttg gggctatatt tacatgctac 780

taaattttta taataattga aaagatttta acaagtataa aaaaattctc ataggaatta 840

aatgtagtct ccctgtgtca gactgctctt tcatagtata actttaaatc ttttcttcaa 900

cttgagtctt tgaagatagt tttaattctg cttgtgacat taaaagatta tttgggccag 960

ttatagctta ttaggtgttg aagagaccaa ggttgcaagc caggccctgt gtgaaccttg 1020

agctttcata gagagtttca cagcatggac tgtgtgcccc acggtcatcc gagtggttgt 1080

acgatgcatt ggttagtcaa aaatggggag ggactagggc agtttggata gctcaacaag 1140

atacaatctc actctgtggt ggtcctgctg acaaatcaag agcattgctt ttgtttctta 1200

agaaaacaaa ctctttttta aaaattactt ttaaatatta actcaaaagt tgagattttg 1260

gggtggtggt gtgccaagac attaattttt tttttaaaca atgaagtgaa aaagttttac 1320

aatctctagg tttggctagt tctcttaaca ctggttaaat taacattgca taaacacttt 1380

tcaagtctga tccatattta ataatgcttt aaaataaaaa taaaaacaat ccttttgata 1440

aatttaaaat gttacttatt ttaaaataaa tgaagtgaga tggcatggtg aggtgaaagt 1500

atcactggac taggttgttg gtgacttagg ttctagatag gtgtctttta ggactctgat 1560

tttgaggaca tcacttacta tccatttctt catgttaaaa gaagtcatct caaactctta 1620

gtttttttttt tttacactat gtgatttata ttccatttac ataaggatac acttatttgt 1680

caagctcagc acaatctgta aatttttaac ctatgttaca ccatcttcag tgccagtctt 1740

gggcaaaatt gtgcaagagg tgaagtttat atttgaatat ccattctcgt tttaggactc 1800

ttcttccata ttagtgtcat cttgcctccc taccttccac atgccccatg acttgatgca 1860

gttttaatac ttgtaattcc cctaaccata agatttactg ctgctgtgga tatctccatg 1920

aagttttccc actgagtcac atcagaaatg ccctacatct tattttcctc agggctcaag 1980

agaatctgac agataccata aagggatttg acctaatcac taattttcag gtggtggctg 2040

atgctttgaa catctctttg ctgcccaatc cattagcgac agtaggattt ttcaaccctg 2100

gtatgaatag acagaaccct atccagtgga aggagaattt aataaagata gtgcagaaag 2160

aattccttag gtaatctata actaggacta ctcctggtaa cagtaataca ttccattgtt 2220

ttagtaacca gaaatcttca tgcaatgaaa aatactttaa ttcatgaagc ttacttttttt 2280

ttttttggtg tcagagtctc gctcttgtca cccaggctgg aatgcagtgg cgccatctca 2340

gctcactgca accttccatc ttcccaggtt caagcgattc tcgtgcctcg gcctcctgag 2400

tagctgggat tacaggcgtg tgcactacac tcaactaatt tttgtatttt taggagagac 2460

ggggtttcac ctgttggcca ggctggtctc gaactcctga cctcaagtga ttcacccacc 2520

ttggcctcat aaacctgttt tgcagaactc atttattcag caaatattta ttgagtgcct 2580

accagatgcc agtcaccgca caaggcactg ggtatatggt atccccaaac aagagacata 2640

atcccggtcc ttaggtactg ctagtgtggt ctgtaatatc ttactaaggc ctttggtata 2700

cgacccagag ataacacgat gcgtatttta gttttgcaaa gaaggggttt ggtctctgtg 2760

ccagctctat aattgttttg ctacgattcc actgaaactc ttcgatcaag ctactttatg 2820

taaatcactt cattgtttta aaggaataaa cttgattata ttgttttttt atttggcata 2880

actgtgattc ttttaggaca attactgtac acattaaggt gtatgtcaga tattcatatt 2940

gacccaaatg tgtaatattc cagttttctc tgcataagta attaaaatat acttaaaaat 3000

taatagtttt atctgggtac aaataaacag tgcctgaact agttcacaga caagggaaac 3060

ttctatgtaa aaatcactat gatttctgaa ttgctatgtg aaactacaga tctttggaac 3120

actgtttagg tagggtgtta agacttgaca cagtacctcg tttctacaca gagaaagaaa 3180

tggccatact tcaggaactg cagtgcttat gaggggatat ttaggcctct tgaatttttg 3240

atgtagatgg gcatttttt aaggtagtgg ttaattacct ttatgtgaac tttgaatggt 3300

ttaacaaaag atttgttttt gtagagattt taaaggggga gaattctaga aataaatgtt 3360

acctaattat tacagcctta aagacaaaaa tccttgttga agtttttta aaaaaagact 3420

aaattacata gacttaggca ttaacatgtt tgtggaagaa tatagcagac gtatattgta 3480

tcatttgagt gaatgttccc aagtaggcat tctaggctct atttaactga gtcacactgc 3540

ataggaattt agaacctaac ttttataggt tatcaaaact gttgtcacca ttgcacaatt 3600

ttgtcctaat atatacatag aaactttgtg gggcatgtta agttacagtt tgcacaagtt 3660

catctcattt gtattccatt gatttttttt tttcttctaa acatttttc ttcaaaacag 3720

tatatataac ttttttagg ggatttttt tagacagcaa aaaactatct gaagatttcc 3780

atttgtcaaa aagtaatgat ttcttgataa ttgtgtagtg aatgtttttt agaacccagc 3840

agttaccttg aaagctgaat ttatatttag taacttctgt gttaatactg gatagcatga 3900

attctgcatt gagaaactga atagctgtca taaaatgctt tctttcctaa agaaagatac 3960

tcacatgagt tcttgaagaa tagtcataac tagattaaga tctgtgtttt agtttaatag 4020

tttgaagtgc ctgtttggga taatgatagg taatttagat gaatttaggg gaaaaaaaag 4080

ttatctgcag ttatgttgag ggcccatctc tccccccaca cccccacaga gctaactggg 4140

ttacagtgtt ttatccgaaa gtttccaatt cc 4172

<210> 61
<211> 238
<212> DNA
<213> Homo sapiens

<400> 61
ccattgtgct ggaaaggcgc gcaacggcgg cgacggcggc gaccccaccg cgcatcctgc 60

caggcctccg cgcccagccg cccacgcgcc cccgcgcccc gcgccccgac cctttcttcg 120

cgcccccgcc cctcggcccg ccaggccccc ttgccggcca cccgccaggc cccgcgccgg 180

cccgcccgcc gcccaggacc ggcccgcgcc ccgcaggccg cccgccgccc gcgccgcc 238

<210> 62
<211> 547
<212> DNA
<213> Homo sapiens

<400> 62
ggccccgcag ctctggccac agggacctct gcagtgcccc ctaagtgacc cggacacttc 60

cgaggggcc atcaccgcct gtgtatataa cgtttccggt attactctgc tacacgtagc 120

ctttttactt ttggggtttt gtttttgttc tgaactttcc tgttaccttt tcagggctga 180

tgtcacatgt aggtggcgtg tatgagtgga gacgggcctg ggtcttgggg actggagggc 240

aggggtcctt ctgcccctgg ggtcccaggg tgctctgcct gctcagccag gcctctcctg 300

ggagccactc gcccagagac tcagcttggc caacttgggg ggctgtgtcc acccagcccg 360

cccgtcctgt gggctgcaca gctcaccttg ttccctcctg ccccggttcg agagccgagt 420

ctgtgggcac tctctgcctt catgcacctg tcctttctaa cacgtcgcct tcaactgtaa 480

tcacaacatc ctgactccgt catttaataa agaaggaaca tcaggcatgc taaaaaaaaa 540

aaaaaaa 547

<210> 63
<211> 102
<212> DNA
<213> Homo sapiens

<400> 63
gaattccggc aaacatgagg cagctgccag ccggcctggg cagtcttgtc tgcctcggct 60

gtgaagtggg gaggctggca acagttttct tcagcgccca gg 102

<210> 64
<211> 2017
<212> DNA
<213> Homo sapiens

<400> 64
gacacgtcca aaggagtgca tggccacagc cacctccacc cccaagaaac ctccatcctg 60

ccaggagcag cctccaagaa acttttaaaa aatagatttg caaaaagtga acagattgct 120

acacacacac acacacacac acacacacac acacacagcc attcatctgg gctggcagag 180

gggacagagt tcagggaggg gctgagtctg gctaggggcc gagtccagag gccccagcca 240

gcccttccca ggccagcgag gcgaggctgc ctctgggtga gtggctgaca gagcaggtct 300

gcaggccacc agctgctgga tgtcaccaag aaggggctcg agtgccctgc aggagggtcc 360

aatcctccgg tcccacctcg tcccgttcat ccattctgct ttcttgccac acagtggccg 420

gcccaggctc ccctggtctc ctccccgtag ccactctctg cccactacct atgcttctag 480

aaagcccctc acctcaggac cccagaggac cagctggggg gcaggggggа gaggggtaa 540

tggaggccaa gcctgcagct ttctggaaat tcttccctgg gggtcccagt atcccctgct 600

actccactga cctggaagag ctgggtacca ggccacccac tgtggggcaa gcctgagtgg 660

tgaggggcca ctggcatcat tctccctcca tggcaggaag gcgggggatt tcaagtttag 720

ggattgggtc gtggtggaga atctgagggc actctgccag ctccacaggt ggatgagcct 780

ctccttgccc cagtcctggt tcagtgggaa tgcagtgggt ggggctgtac acaccctcca 840

gcacagactg ttccctccaa ggtcctctta ggtcccgggg aggaacgtgg ttcagagact 900

ggcagccagg gagcccgggg cagagctcag aggagtctgg gaaggggcgt gtccctcctc 960

ttcctgtagt gcccctccca tggcccagca gcttggctga gcccctctcc tgaagcagct 1020

gtgcgccgtc cctctgcctt gcacaaaaag cacaagacat tccttagcag ctcagcgcag 1080

ccctagtggg agcccagcac actgcttctc ggaggccagg ccctcctgct ggctgagctt 1140

gggcccggtg gccccaatat ggtggccctg gggaagaggc cttgggggtc tgctctgtgc 1200

ctgggatcag tggggcccca aagcccagcc cggctgacca acattcaaaa gcacaaaccc 1260

tggggactct gcttggctgt cccctccatc tggggatgga gaatgcagcc caaagctgga 1320

gccaatggtg agggctgaga gggctgtggc tgggtggtca gcagaaaccc caggaggaga 1380

gagatgctgc tcccgcctga ttggggcctc acccagaagg aacccggtcc cagccgcatg 1440

gcccctccag gaacattccc acataataca ttccatcaca gccagcccag ctccactcag 1500

ggctggcccg gggagtcccc gtgtgcccca agaggctagc cccagggtga gcagggccct 1560

cagaggaaag gcagtatggc ggaggccatg ggggccctc ggcattcaca cacagcctgg 1620

cctcccctgc ggagctgcat ggacgcctgg ctccaggctc caggctgact ggggcctctg 1680

cctccaggag ggcatcagct ttccctggct cagggatctt ctccctcccc tcacccgctg 1740

cccagccctc ccagctgatg tcactctgcc tctaagccaa ggcctcagga gagcatcacc 1800

accacaccct gcggccttgc cttggggcca gactggctgc acagcccaac caggaggggt 1860

ctgcctccca cgctgggaca cagaccggcc gcatgtctgc atggcagaag cgtctccctt 1920

gccacggcct gggagggtgg ttcctgttct cagcatccac taatattcag tcctgtatat 1980

tttaataaaa taaacttgac aaaggaaaaa aaaaccg 2017

<210> 65
<211> 97
<212> DNA
<213> Homo sapiens

<400> 65
gtccaggaac tcctcagcag cgcctccttc agctccacag ccagacgccc tcagacagca 60

aagcctaccc ccgcgccgcg ccctgcccgc cgctgcg 97

<210> 66
<211> 1474
<212> DNA
<213> Homo sapiens

<400> 66
aagtctaatg atcatattta tttatttata tgaaccatgt ctattaattt aattatttaa 60

taatatttat attaaactcc ttatgttact taacatcttc tgtaacagaa gtcagtactc 120

ctgttgcgga gaaaggagtc atacttgtga agacttttat gtcactactc taaagatttt 180

gctgttgctg ttaagtttgg aaaacagttt ttattctgtt ttataaacca gagagaaatg 240

agttttgacg tctttttact tgaatttcaa cttatattat aaggacgaaa gtaaagatgt 300

ttgaatactt aaacactatc acaagatgcc aaaatgctga aagtttttac actgtcgatg 360

tttccaatgc atcttccatg atgcattaga agtaactaat gtttgaaatt ttaaagtact 420

tttgggtatt tttctgtcat caaacaaaac aggtatcagt gcattattaa atgaatattt 480

aaattagaca ttaccagtaa tttcatgtct actttttaaa atcagcaatg aaacaataat 540

ttgaaatttc taaattcata gggtagaatc acctgtaaaa gcttgtttga tttcttaaag 600

ttattaaact tgtacatata ccaaaaagaa gctgtcttgg atttaaatct gtaaaatcag 660

atgaaatttt actacaattg cttgttaaaa tattttataa gtgatgttcc tttttcacca 720

agagtataaa ccttttttagt gtgactgtta aaacttcctt ttaaatcaaa atgccaaatt 780

tattaaggtg gtggagccac tgcagtgtta tctcaaaata agaatatcct gttgagatat 840

tccagaatct gtttatatgg ctggtaacat gtaaaaaccc cataaccccg ccaaaagggg 900

tcctaccctt gaacataaag caataaccaa aggagaaaag cccaaattat tggttccaaa 960

tttagggttt aaacttttttg aagcaaactt ttttttagcc ttgtgcactg cagacctggt 1020

actcagattt tgctatgagg ttaatgaagt accaagctgt gcttgaataa cgatatgttt 1080

tctcagattt tctgttgtac agtttaattt agcagtccat atcacattgc aaaagtagca 1140

atgacctcat aaaatacctc ttcaaaatgc ttaaattcat ttcacacatt aattttatct 1200

cagtcttgaa gccaattcag taggtgcatt ggaatcaagc ctggctacct gcatgctgtt 1260

ccttttcttt tcttctttta gccattttgc taagagacac agtcttctca aacacttcgt 1320

ttctcctatt ttgttttact agttttaaga tcagagttca ctttctttgg actctgccta 1380

tattttctta cctgaacttt tgcaagtttt caggtaaacc tcagctcagg actgctattt 1440

agctcctctt aagaagatta aaaaaaaaaa aaaa 1474

<210> 67
<211> 99

<212> DNA
<213> Homo sapiens

<400> 67
gcgcccggcc cccacccctc gcagcacccc gcgccccgcg ccctcccagc cgggtccagc 60

cggagccatg gggccggagc cgcagtgagc accatggag 99

<210> 68
<211> 614
<212> DNA
<213> Homo sapiens

<400> 68
tgaaccagaa ggccaagtcc gcagaagccc tgatgtgtcc tcagggagca gggaaggcct 60

gacttctgct ggcatcaaga ggtgggaggg ccctccgacc acttccaggg gaacctgcca 120

tgccaggaac ctgtcctaag gaaccttcct tcctgcttga gttcccagat ggctggaagg 180

ggtccagcct cgttggaaga ggaacagcac tggggagtct ttgtggattc tgaggccctg 240

cccaatgaga ctctagggtc cagtggatgc cacagcccag cttggccctt tccttccaga 300

tcctgggtac tgaaagcctt agggaagctg gcctgagagg ggaagcggcc ctaagggagt 360

gtctaagaac aaaagcgacc cattcagaga ctgtccctga aacctagtac tgccccccat 420

gaggaaggaa cagcaatggt gtcagtatcc aggctttgta cagagtgctt ttctgtttag 480

tttttacttt ttttgttttg ttttttaaa gacgaaataa agacccaggg gagaatgggt 540

gttgtatggg gaggcaagtg tgggggggtcc ttctccacac ccactttgtc catttgcaaa 600

tatattttgg aaaa 614

<210> 69
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 1 for amplify VEGF 5'UTR

<400> 69
aaagtcgacg taatcgcgga ggcttggggc agccgg 36

<210> 70
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 2 for amplify VEGF 5'UTR

<400> 70
tttgcgactg gtcagctgcg ggatcccaag 30

<210> 71
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 3 for amplify VEGF 5'UTR

<400> 71
aagtcgacgt aagagctcca gagagaagtc gag 33

<210> 72
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 4 for amplify VEGF 5'UTR

<400> 72
aaacccgggc agcaaggcaa ggctccaatg cac 33

<210> 73
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 5 for amplify VEGF 3'UTR

<400> 73
gccgggcagg aggaaggagc ctcccctcagg gtttcggga 39

<210> 74
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer 6 for amplify VEGF 3'UTR

<400> 74
ctgcactaga gacaaagacg tgatgttaat 30

<210> 75
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Polylinker

<400> 75
gaacaaatgt cgacgggggc ccctagcaga tctagcgctg gatcccccgg ggagctcaug 60

gaagac 66

<210> 76
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for luciferase amplification

<400> 76
cggtgttggg cgcgttattt atcggagttg 30

<210> 77
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for luciferase amplification

<400> 77
ttggcgaaga atgaaaatag ggttggtact 30

<210> 78
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for GAPDH amplification

<400> 78
ggtgaaggtc ggagtcaacg ga 22

<210> 79
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for GAPDH amplification

<400> 79
gagggatctc gctcctggaa g 21

<210> 80
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'UTR forward oligo

<400> 80

aaagtcgacg taaccgccag atttgaatcg cgggacccgt tggcagaggt ggcgg 55

<210> 81
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'UTR reverse oligo

<400> 81
aaaggatccg ggcaacgtcg gggcacccat gccgccgccg ccacctctgc caac 54

<210> 82
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3'UTR forward oligo

<400> 82
aaagcggccg cggcctctgc cggagctgcc tggtcccaga 40

<210> 83
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3'UTR reverse oligo

<400> 83
aaatctagac tcaggaacag ccgagatgac ctccaga 37

<210> 84
<211> 67
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SL top oligonucleotide

<400> 84
ctagaagctt agggccgcgg atccgcgcgc ggttcgccgc gcgcggatcc gcggtagcaa 60

gttagtc 67

<210> 85
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SL bottom oligonucleotide

<400> 85
gactaagctt gctaccgcgg atccgcgcgc ggcgaaccgc gcgcggatcc gcggccctaa 60

gcttctag 68

<210> 86
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer (Sense/HindIII)

<400> 86
caagaagctt gcgcccggcc ccccaccccct cg 32

<210> 87
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer (Antisense/NcoI)

<400> 87
agcccatggt gctcactgcg gctccggccc c 31

<210> 88
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer (Sense/BglII)

<400> 88
agactctgaa ccagaaggcc aa 22

<210> 89
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer (Antisense/KpnI)

<400> 89
ctcggtacca gttttccaaa atatatttgc aaatgg 36

<210> 90
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sense minus uORF HindIII primer

<400> 90
cccaagcttc gcgcccggcc ccccaccccct cgcagcaccc cgcgccccgc gccctccc 58